MEDICAL BOTANY:

CONTAINING

SYSTEMATIC AND GENERAL DESCRIPTIONS,

WITH

Plates of all the Medicinal Plants,

COMPREHENDED IN THE

CATALOGUES OF THE MATERIA MEDICA,

AS PUBLISHED BY THE

ROYAL COLLEGES OF PHYSICIANS OF LONDON, EDINBURGH, AND DUBLIN;

TOGETHER WITH THE PRINCIPAL MEDICINAL PLANTS NOT INCLUDED IN THOSE PHARMACOPŒIAS.

ACCOMPANIED WITH A CIRCUMSTANTIAL DETAIL OF THE MEDICINAL EFFECTS, AND OF THE DISEASES IN WHICH THEY HAVE BEEN MOST SUCCESSFULLY EMPLOYED.

BY

WILLIAM WOODVILLE, M.D. F.L.S.

THIRD EDITION,

IN WHICH THIRTY-NINE NEW PLANTS HAVE BEEN INTRODUCED.

THE BOTANICAL DESCRIPTIONS ARRANGED AND CORRECTED BY

DR. WILLIAM JACKSON HOOKER, F.R.S. L.S. &c.

Who has added an Index following the Arrangement of Jussieu.

THE NEW MEDICO-BOTANICAL PORTION SUPPLIED BY

G. SPRATT, ESQ. AUTHOR OF THE FLORA MEDICA,

Under whose immediate Inspection the whole of the Plates have been coloured.

IN FIVE VOLUMES.

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Pyrus Cydonia

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ORD. XXVIII. POMACEÆ.

(From *Pomum*, an Apple)

Bearing Fruit of the Apple, Pear, Cherry, and Berry kind.

PYRUS CYDONIA. COMMON QUINCE TREE.

SYNONYMA. Cydonium malum. *Pharm. Lond. & Edinb.* Malus Cotonea. *Gerard. Emac. p.* 1452. *Raii Hist. p.* 1452. *J. Bauh. Hist. vol. i. p.* 35. Malus Cotonea vulgaris. *Park. Theat. p.* 1504. Mala cotonea majora. *Bauh. Pin. p.* 434. *Flor. Aust. v. iv. t.* 342. Duplex varietas in hortis colitur, scil. 1. Cydonia fructu oblongo læviori. *Tourn. Instit. p.* 632. Mala Cotonea majora. *C. Bauh. l. c.* depicta ab ill Du Hamel, in *Traité des Arb. fruit. ad p.* 206. 2 Cydonia fructu breviore et rotundiore. *Tourn. l. c.* Mala cotonea minora. *C. Bauh. l. c.* depicta in Du Hamel *Traité des Arb. et Arbustes Tab.* 83. Prostat et alia 3 varietas: Cydonia latifolia lusitanica. *Tourn.* cujus fructus oblongus succosior et minus acerbus, sed rarioris proventus. Vide *Murray App. Med. vol. iii. p.* 196.

Class Icosandria. *Ord.* Pentagynia. *Lin. Gen. Plant.* 626.

Ess. Gen. Ch. *Cal.* 5-fidus. *Petala* 5. *Pomum* inferum 5-loculare, polyspermum.

Sp. Ch. F. fol. integerrimis, flor. solitariis.

THIS tree seldom rises very high, being usually crooked and distorted: it sends off several branches, and is covered with a brown bark: the leaves are simple, roundish or oval, entire, on the upper side of a dusky green colour, on the under whitish, and stand upon short footstalks: the flowers are large, solitary, of a pale red or white colour, and placed close to the axillæ of the leaves: the calyx is composed of one leaf, and divided into five spreading oval notched segments: the corolla consists of five petals; these are large, convex, roundish, and notched at their extremities: the filaments are about twenty, tapering, shorter than the corolla, inserted into the calyx, and furnished with simple antheræ: the germen is orbicular, the styles are five, slender, nearly of the length of the filaments, and supplied with simple stigmata: the fruit is of the apple kind, and divided at the centre into five membranous cells, containing the seeds, which are oblong, angular, pointed at one end, obtuse at the other, on one side compressed, on the other flat, and covered with a brownish pellicle. It is a native of Austria,* and flowers in May and June.

It appears from Pliny,[a] that the malus Cydonia, or Μηλεα κυδωνια of the Greeks, was originally brought from Cydon in Crete, hence the name Cydonia. At present, the Quince tree is known to grow wild on the banks of the Danube, though in a much less luxuriant state than we observe it in British gardens, where it was cultivated in the time of Gerard. The form of the fruit approaches to that of the pear or apple, according to the different varieties of this species of tree from which it is produced, and which we have already noticed under the synonyms: it has a pleasant odour, and a very austere taste:‖ its expressed juice, repeatedly taken in small quantities, is said to be cooling, restringent, and stomachic,

* Vide *Aiton's Hort. Kew.*

[a] *Lib. xv. cap.* 11. Heister *Diss. de Cydoniis, p.* 59.

‖ But upon being boiled and preserved in syrup, this fruit is well known to give a pleasant flavour to apple-pies.

Amygdalus communis

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useful in nausea, vomitings, nidorous eructations, and some kind of alvine fluxes.[b] Formerly this juice was ordered in the Lond. Pharm. to be made into a syrup; but the only preparation of the Quince which it now directs is a mucilage of the seeds, made by boiling a dram of the seeds in eight ounces of water, till it acquires a proper consistence. This has been recommended in apthous affections, and excoriations of the mouth and fauces. It may be a more pleasant mucilage, but it is certainly a less efficacious one, than that of the simple gums.

[b] *Lewis Mat. Med. p.* 267.

AMYGDALUS COMMUNIS. THE ALMOND TREE.

SYNONYMA. Amygdala (nuclei). *Pharm. Lond. & Edinb.*
Amygdalus amara & dulcis. *J. Bauh. Hist. vol. i. p.* 174. *Raii Hist. p.* 1519. *Gerard. Emac. p.* 1445. *Park. Theat. p.* 1515.
Amygdalus foliis glabris, ovatis, utrinque acuminatis, serratis, petiolo imisque dentibus glandulosis. *Hal. Stirp. Helv. n.* 1080.

Varietates sunt,

α Amygdalus sativa. *Bauh. Pin. p.* 441. Amygdalus dulcis, putamine molliore. *Tournef. Inst. p.* 627. Amandier à coque tendre, vel Amandier des Dames. *Du Hamel. Arbres fruit. T. i. p.* 120. *tab.* 5.

Sweet Almond Tree.

β Amygdalus amara. *Tournef. Inst. p.* 627. Amandier à fruit amer. *Du Hamel. l. c. p.* 123.

Bitter Almond Tree.

Class Icosandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 619.

Ess. Gen. Ch. Cal. 5-fidus, inferus. *Petala* 5. *Drupa* nuce poris perforata.

Sp. Ch. A. foliis serraturis infimis glandulosis, floribus sessilibus geminis.

THIS tree divides into many branches, covered with a dark grey bark, and usually rises from twelve to sixteen feet in height: the leaves are elliptical, narrow, pointed at each end, minutely serrated, veined, of a bright green colour, beset with small glands towards the base, and stand upon short footstalks: the flowers are large, of a pale red colour, without peduncles, commonly placed in numerous pairs upon the branches, and appear before the leaves: the calyx is tubular, and divided at the brim into five blunt segments of a reddish colour: the corolla consists of five oval convex petals, with narrow claws: the filaments are about thirty, spreading, tapering, of unequal length, and of a reddish colour, inserted into the calyx, and furnished with simple antheræ: the germen is roundish and downy: the style is short, simple, and crowned with a round stigma: the fruit is of the peach kind, the outer substance of which is hard, tough, hairy, and marked with a longitudinal furrow where it opens; under this is a thick rough shell, which contains the kernel or almond. This tree is a native of Barbary,[a] and flowers in March and April.

The Almond-tree seems to have been known in the remotest times of antiquity, being frequently mentioned by Theophrastus and Hippocrates: it is probable however that this tree was not very common in Italy, in the time of Cato, as he calls the fruit by the name of Greek nuts.[b] It was cultivated in England by Lobel previous to the year 1570,[c] and though it does not perfect its fruit in this country, yet it is here very generally propagated for the beautiful appearance of its flowers, which are the more conspicuous by showing themselves early in spring before the leaves are expanded.

The fruit or seeds of most vegetables on being planted produce varieties, differing more or less from the parent plant and from

[a] Particularly in the hedges about Tripoli. See *Bauh. l. c.*

[b] See Pliny, *Lib.* 15. *cap.* 22. [c] Vide *Hort. Kew.*

each other, and of the Almond-tree this difference is principally confined to the fruit, which is larger or smaller, the shell thicker or thinner, and the kernel bitter or sweet; hence the distinction into bitter Almonds and sweet Almonds, though the same species of tree affords both. Sweet Almonds are more used as food than medicine, but they are said to be difficult of digestion, unless extremely well comminuted;[d] their medicinal qualities depend upon the oil which they contain in the farinaceous matter, and which they afford on expression nearly in the proportion of half their weight. The oil thus obtained is more agreeable to the palate than most of the other expressed oils, and is therefore preferred for internal use, being generally employed with a view to obtund acrid juices, and to soften and relax the solids; in tickling coughs, hoarseness, costiveness, nephritic pains, &c. externally in tension and rigidity of particular parts. The milky solutions of Almonds in watery liquors, usually called emulsions, possess, in a certain degree, the emollient qualities of the oil, and have this advantage over the pure oil, that they may be given in acute or inflammatory disorders, without danger of the ill effects which the oil might sometimes produce, by turning rancid.* The officinal preparations of Almonds are the expressed oil and the emulsion; to the latter the London College directs the addition of gum arabic, which renders it a still more useful demulcent in catarrhal affections, stranguries, &c.

Bitter Almonds yield a large quantity of oil, perfectly similar to that obtained from sweet Almonds; but the matter remaining after the expression of the oil, is more powerfully bitter than the

[d] The Nuces oleosæ are not always easily digested: "but it appears that this inconvenience may be in a great measure obviated by a very diligent triture, uniting very intimately the farinaceous and the oily part." See *Cullen's Mat. Med. vol. i. p.* 298.

* Several substances of themselves, not miscible with water, may, by trituration with Almonds, be mixed with it in this form, and thus fitted for medical use, as camphor, and various resinous and unctuous substances.

Almond in its entire state. "Great part of the bitter matter dissolves by the assistance of heat both in water and in rectified spirit: and a part arises also with both menstrua in distillation."[e] Bitter Almonds have been long known to be poisonous to various brute animals,[f] and some authors have alledged that they are also deleterious to the human species, but the facts recorded upon this point appear to want further proof.[g] However, as the noxious quality seems to reside in that matter which gives it the bitterness and flavour, it is very probable that when this is separated by distillation, and taken in a sufficiently concentrated state, it may prove a poison to man,[h] as is the case with the common laurel, to which it appears extremely analagous. These Almonds are highly commended for the cure of hydrophobia by Thebesius, who experienced their good effects in twelve cases, in which a few (no particular quantity is mentioned) were eaten every morning.[i] And Bergius tells us, that bitter Almonds, in the form of emulsion, cured obstinate intermittents, after the bark had failed.[k]

[e] *Lewis Mat. Med. p.* 53.

[f] Particularly wolves, foxes, dogs, cats, and various kinds of birds. For which see Wepfer de Cicut. aquat. And many other instances are related in the Ep. Nat. Cur. See also *Daries Epist. de Amygdalis et oleo amararum æthereo.* And Lorry *de Venenis, p.* 17. From the sudden effects which this poison produces, and the convulsions and spasms which follow its exhibition, there can be no doubt of its acting directly upon the nervous energy.

[g] Formerly they were eaten to prevent the intoxicating effects of wine, as is noticed by Dioscorides, "et Plutarchus medicum filii Imperatoris Tiberii producit, qui hocce præsidio munitus inter quotidianas comessationes in bibendo reliquos omnes antecellere valuit." *Murr. Ap. Med, vol. iii. p.* 260. But from twelve of these Almonds Lorry experienced a sense of inebriation. *De Venenis, p.* 17.

[h] One drop of this essential oil killed a small bird in two minutes. See *Daries, l. c.*

[i] Vide *Nov. Act. Nat. Cur. tom. i. p.* 181. [k] *Mat. Med. p.* 413.

Amygdalus Persica

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AMYGDALUS PERSICA. COMMON PEACH TREE.

SYNONYMA. Persica. *Pharm. Dale.* 301. *Alston. ii.* 365. *Geoff. iii.* 798. *Lewis.* 483. *Edinb. New Dispens.* 249. *Murray. iii.* 241. *Bergius.* 413. Persica Malus. *Gerard. Emac.* 1447. *Park. Parad.* 580. *Raii. Hist.* 1515. *Du Hamel. Arb. fruit. T. ii. t.* 30.

Icosandria Monogynia. *Lin. Gen. Plant.* 619.

Gen. Ch. *Cal.* 5-fidus, inferus. *Pet.* 5. *Drupa* nuce poris perforata.

Sp. Ch. A. foliorum serraturis omnibus acutis, floribus sessilibus solitariis.

THE common Peach-tree grows to a considerable height, and sends off numerous spreading branches. Leaves long, narrow, pointed, elliptical, acutely serrated, on footstalks, alternate. Flowers sessile, purplish, solitary, large. Calyx tubular, divided at the margin into five ovate segments, and at the base beset with numerous scales. Petals five, inversely ovate, spreading, attached by short claws. Filaments numerous, tapering, inserted into the calyx, furnished with purplish antheræ. Germen roundish, downy. Style short, simple, terminated by a round stigma. Fruit too well known to require description.

The varieties of this species are α, *fructibus lanuginosis,* Common Peach. β, *fructibus glabris,* Nectarine. γ, *flore pleno,* the double-flowered Peach-tree.

It is not known of what country this tree is a native, but it was cultivated here in the time of Turner, 1562, and probably long before that period. From the name Persica, it may be supposed, to have been brought from Persia; but this is conjecture, nor is it ascertained to be the Περσικη μηλεα of Dioscorides, or Περσια of Theophrastus.

The fruit is known to be grateful and wholesome, seldom disagreeing with the stomach, unless this organ is not in a healthy state, or the fruit has been eaten to excess, when effects similar to those of the other dulco-acid summer fruits may be produced.

The flowers, including the calyx, as well as the corolla, are the parts of the Persica used for medicinal purposes; these have an agreeable but weak smell, and a bitterish taste. Boulduc[a] observes, "that when distilled without addition by the heat of a water bath, they yield one-sixth their weight, or more, of a whitish liquor, which communicates to a considerable quantity of other liquids a flavour like that of the kernels of fruits."

These flowers have a cathartic effect, and especially to children have been successfully given in the character of a vermifuge; for this purpose an infusion of a dram of the flowers dried, or half an ounce in their recent state, is the requisite dose. The leaves of the Persica are also found to possess an anthelmintic power, and from a great number of experiments appear to have been given with invariable success both to children and adults.

However, as the leaves and flowers of the Persica manifest in some degree the quality of those of the laurocerasus, they ought to be used with caution.

We find a "Syrupus florum persicorum," ordered in the Pharm. Wurt.

Menispermum Cocclus of Linnæus, which produces the Cocculus Indus, formerly an officinal article, belongs also to this natural order. It is figured by Rumphius under the name of Tuba baccifera.

The fruit, which is brought here from the East Indies, is said to be powerfully narcotic, and used for the purpose of intoxication.

[a] Mem. de L'Acad. 1714. p. 37.

[*] See *Coste et Willemet. Ess. de Mat. Med. indig. p. 32.*

Prunus Sauro-cerasus

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PRUNUS LAUROCERASUS. COMMON, or CHERRY LAUREL.

SYNONYMA. Laurocerasus. *Pharm. Dale.* 309. *Lewis.* 380. *Bergius.* 399. *Murray. iii.* 213. *Cullen. ii.* 282. Cerasus folio laurino. *Bauh. Pin.* 410. *Ger. Emac.* 1603. *Raii Hist.* 1549. *Duhamel. Traité des Arbres. t.* 133.

Icosandria Monogynia. *Lin. Gen. Plant.* 620.

Gen. Ch. *Cal.* 5-fidus, inferus. *Petala* 5. *Drupæ* nux suturis prominulis.

Sp. Ch. P. floribus racemosis fol. sempervirentibus dorso biglandulosis.

A SHRUB or small tree, sending off long spreading branches, and covered with smooth brown bark. Leaves evergreen, elliptical, or obovate, blunt, rather serrated, furnished with yellowish glands at the base, of a shining deep green, placed alternately upon strong short footstalks. Flowers on short peduncles, in spikes, which arise at the alæ of the leaves. Calyx tubular, ovate, divided at the brim into five pointed reflexed segments. Corolla composed of five petals, which are small, white, roundish. Filaments about eighteen, tapering, inserted in the calyx, furnished with simple antheræ. Germen oblong, supporting a columnar style, terminated by a blunt stigma. Fruit drupous, resembling a small cherry both in its external and internal structure.

It is a native of the Levant, and appears to have been long cultivated in Britain, and by its polished evergreen leaves adds much to the beauty of our shrubberies.

The leaves of the Lauro Cerasus have a bitter styptic taste, accompanied with a flavour resembling that of bitter almonds,

or other kernels of the drupaceous fruits. The flowers of this plant also manifest a similar flavour. The powdered leaves, applied to the nostrils, excite sneezing, though not so strongly as tobacco.

The kernel-like flavour which these leaves impart being generally esteemed grateful, has sometimes caused them to be employed for culinary purposes, and especially in custards, puddings, blancmange, &c. and as the proportion of this sapid matter of the leaf to the quantity of the milk is commonly inconsiderable, bad effects have seldom ensued. But as the poisonous quality of this laurel is now indubitably proved, the public ought to be cautioned against its internal use.

The following communication to the Royal Society, by Dr. Madden of Dublin, contains the first and principal proofs of the deleterious effects of this vegetable upon mankind. "A very "extraordinary accident that fell out here some months ago, has "discovered to us a most dangerous poison, which was never "before known to be so, though it has been in frequent use "among us. The thing I mean is a simple water, distilled from "the leaves of the *Lauro-cerasus*.—The water is at first of a "milky colour, but the oil which comes over the helm with it, "being in a good measure separated from the phlegm, by passing "it through a flannel bag, it becomes as clear as common water. "It has the smell of bitter almond, or peach kernel, and has been "for many years in frequent use among our housewives and "cooks, to give that agreeable flavour to their creams and puddings. It has also been much in use among our drinkers of "drams; and the proportion they generally use it in, has been "one part of laurel-water to four of brandy. Nor has this "practice, (however frequent) ever been attended with any "apparent ill consequences, till some time in the month of "September, 1728, when it happened that one Martha Boyse, "a servant, who lived with a person that sold great quantities "of this water, got a bottle of it from her mistress, and gave it to

" her mother, Ann Boyse, as a very rich cordial. Ann Boyse " made a present of it to Frances Eaton, her sister, who was a " shopkeeper in town, and who she thought might oblige her " customers with it. Accordingly, in a few days, she gave about " two ounces of the water to a woman called Mary Whaley, who " drank about two-thirds of what was filled out, and went away. " Frances Eaton drank the rest. In a quarter of an hour after " Mary Whaley had drank the water, (as I am informed) she com- " plained of a violent disorder in her stomach, soon after lost her " speech, and died in about an hour, without vomiting or purging, " or any convulsion.

" The shopkeeper, F. Eaton, sent word to her sister, Ann Boyse, " of what had happened, who came to her upon the message, and " affirmed that it was not possible the cordial (as she called it) " could have occasioned the death of the woman; and to convince " her of it, she filled out about three spoonfuls, and drank it. " She continued talking with F. Eaton about two minutes longer, " and was so earnest to persuade her of the liquor's being inof- " fensive, that she drank two spoonfuls more, but was hardly " well seated in her chair when she died without the least groan " or convulsion. Frances Eaton, who, as before observed, had " drank somewhat above a spoonful, found no disorder in her " stomach or elsewhere; but to prevent any ill consequence she " took a vomit immediately, and has been well ever since."[a]

Dr. Madden mentions another case of a gentleman at Kilkenny, who " mistook a bottle of this laurel water for a bottle of ptisan; " what quantity he drank is uncertain, but he died in a few " minutes, complaining of a violent disorder in his stomach."

In addition to this, we may refer to the unfortunate case of Sir Theodosius Boughton, whose death, in 1780, an English jewry

[a] See *Phil. Trans. vol. 37. p. 84.* " *A Letter from T. Madden, M. D. giving an account of two women being poisoned by the simple distilled water of Laurel-leaves, and of several experiments upon dogs, by which it appears, that this laurel is one of the most dangerous poisons hitherto known.*"

declared to be occasioned by this poison. In this case the active principle of the Laurocerasus was concentrated by repeated distillations, and given to the quantity of an ounce; the suddenly fatal effects of which must be still in the recollection of the public.

To brute animals this poison is almost instantaneously mortal, as amply appears by the experiments of Madden, Mortimer,[b] Nicholls,[c] Langrish,[d] Vater,[e] Fontana, and others.

The experiments, conducted by these gentlemen, show, that the laurel-water is destructive to animal life, not only when taken into the stomach, but also on being injected into the intestines, or applied externally to different organs of the body. It is remarked by Abbé Fontana, that this poison, even "when applied in a very small quantity to the eyes, or to the inner part of the mouth, without touching the oesophagus, or being carried into the stomach, is capable of killing an animal in a few instants; whilst applied in a much greater quantity to wounds, it has so little activity, that the weakest animals, such as pigeons, resist its action."[f]

The most volatile is the most active part of the Laurocerasus; and if we judge from its sensible qualities, an analagous principle seems to pervade many other vegetable substances, especially the kernels of drupaceous fruits; and in various species of the amygdalus, this sapid principle extends to the flowers and leaves

It is of importance to notice, that this is much less powerful in its action upon human subjects than upon dogs, rabbits, pigeons, and reptiles. To poison man the essential oil of the Laurocerasus must be separated by distillation, as in the spirituous or common

[b] *Phil. Trans. v. 37. p. 163.*

[c] & [d] Vide Langrish. *Phil. experiments upon brutes, to which is added a course of experiments with the Laurocerasus.*

[e] *Diss. de Laurocerasi indole venenata.* Also in his *Progr. de olei animal. contra hydrop.*

[f] See *Skinner's Translation. ii. p.* 180.

laurel-water; and unless this is strongly imbued with the oil, or given in a large dose, it proves innocent.

Dr. Cullen observes, that the sedative power of the Laurocerasus acts upon the nervous system in a different manner from opium and other narcotic substances, whose primary action is upon the animal functions: for the Laurocerasus does not occasion sleep, nor does it produce local inflammation, but seems to act directly upon the vital powers. Abbé Fontana supposes that this poison destroys animal life, by exerting its effects upon the blood; but the experiments and observations from which he draws this opinion are evidently inconclusive. It may also be remarked, that many of the Abbé's experiments contradict each other.

Thus it appears, from the citation given above, that the poison of this vegetable, when applied to wounds, does not produce a fatal effect; but future experiments led the Abbé to assert, that the oil of the Laurocerasus, "whether given internally, or applied to the wounds of animals, is one of the most terrible and deadly poisons known."

Though this vegetable seems to have escaped the notice of Stoerck, yet it is not without advocates for its medicinal use. Linnæus informs us, that in Switzerland it is commonly and successfully used in pulmonary complaints. Langrish mentions its efficacy in agues; and as Bergius found bitter almonds to have this effect, we may from analogy conclude, that this power of the Laurocerasus is well established. Baylies found that it possessed a remarkable power of diluting the blood, and from experience recommended it in all cases of disease supposed to proceed from too dense a state of that fluid; adducing particular instances of its efficacy in rheumatism, asthma, and in schirrous affections. Nor does this author seem to have been much afraid of the deleterious quality of the Laurocerasus, as he directs a pound of its leaves to be macerated in a pint of water, of which he gives from thirty to sixty drops three or four times a day.

Of the other species of Prunus, or Cherry, we find nothing deserving of particular attention.

The Sorbus aucuparia, or Mountain Ash, belongs to this order. Its berries, which appear in large beautiful clusters, are by some writers esteemed for their cathartic and antiscorbutic qualities.

PRUNUS SPINOSA. SLOE TREE.

SYNONYMA. Prunum sylvestre. *Pharm. Lond.* Prunus sylvestris. *Gerard. Emac. p.* 1497. *Park. Theat. p.* 1033. *Bauh. Pin. p.* 444. *J. Bauh. Hist. vol. i. p.* 198. *Raii Hist. p.* 1527. *Synop. p.* 462. Prunus spinosa, foliis glabris serratis ovato-lanceolatis, floribus breviter petiolatis. *Hall. Stirp. Helv. n.* 1080. *Hudson. Flor. Ang. p.* 212. *Withering. Bot. Arrang. p.* 509.

Class Icosandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 620.

Ess. Gen. Ch. *Cal.* 5-fidus, inferus. *Petala* 5. *Drupæ* nux suturis prominulis.

Gen. Ch. P. pedunculis solitariis, foliis lanceolatis glabris, ramis spinosis.

THE root is woody, divided, and spreading: the stem is shrubby, crooked, rises to the height of six or eight feet, covered with a purplish black coloured bark, and sends off many irregular spinous branches: the leaves are oval, obtusely lance-shaped, smooth, minutely serrated, of a deep green colour, and stand upon short footstalks:† the stipulæ are linear, notched, and discoloured at their points: the flowers are large, white, and stand separately

† The serratures of the leaves have been observed by Linnæus to be terminated by an excretory duct.

Prunus spinosa

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upon short peduncles: the calyx is small, and divided at the brim into five oval segments: the corolla is composed of five oblong concave petals, attached to the calyx by short claws: the filaments are in number from twenty to thirty, spreading, tapering, white, inserted in the calyx, and furnished with orange coloured antheræ: the germen is roundish, the style simple and slender, and the stigma orbicular: the fruit is of the drupous or cherry kind, though much smaller, of a black colour, but covered with a bright blue exudation, and contains a nut with an oblong kernel. It is common in hedges, and the flowers appear in March and April, before the leaves are visible.

The fruit of the Sloe-bush, or, as it is frequently called, Black-thorn, is so harshly sharp and austere as not to be eatable till thoroughly mellowed by frosts: its juice is extremely viscid, so that the fruit requires the addition of a little water, in order to admit of expression. The juice obtained from the unripe fruit, and inspissated to dryness by a gentle heat, is the German acacia, and has been usually sold in the shops for the Egyptian acacia, from which it differs in being harder, heavier, darker coloured, of a sharper taste, and more especially in giving out its astringency to rectified spirit.[a]

The Pruna sylvestria have been employed for their styptic powers since the time of Dioscorides;[b] and as their astringency is united to the refrigerant qualities of the fruit, they may sometimes supersede those medicines of this class which are of a resinous or heating quality. They have been recommended in diarrhæas, hæmorrhagic affections, and as gargles, in tumefactions of the tonsils and uvulæ. Dr. Cullen considers the Sloe as the most powerful of the *fructus acerbi,* and adds, that he has often found it an agreeable and useful astringent; but he thinks the conserve of this fruit, as directed by the College, contains a larger portion of sugar than is necessary.[c]

[a] Lewis *Mat. Med. p.* 522. [b] Diosc. *Mat. Med. Lib. i. cap.* 173.

[c] Vide *Mat. Med. vol. ii. p.* 41.

The flowers, with their calyces, are moderately purgative, and for this purpose an ounce infused in a sufficient quantity of water, or rather whey, was experienced to be a pleasant and useful laxative.[d] The powdered bark, in doses of a dram, is said to cure agues.

[d] See J. Bauh. *Hist. tom. i. P. i. p.* 196. & *Fred. Hoffman. Diss. de præstantia remed. domest.* §. 26.

Dr. Withering says, "The tender leaves dried are sometimes used as a substitute for tea, and is I believe the best substitute that has yet been tried. The fruit bruised, and put into wine, gives it a beautiful red colour, and a pleasant subacrid roughness. Letters written upon linen or woollen with the juice of this fruit, will not wash out." *Bot. Arr. p.* 509.

PRUNUS DOMESTICA. COMMON PRUNE, Or PLUM TREE.

SYNONYMA. Prunum gallicum. *Pharm. Lond.* Prunus domestica. *Gerard. Emac. p.* 1497. Prunus vulgaris. *Park. Theat. p.* 1512. *Raii Hist. p.* 1526. Prunus foliis serratis, hirsutis, ovato-lanceolatis, floribus longe petiolatis. *Hal. Stirp. Helv. n.* 1079. Ut Linnæo videtur Prunus fructu parvo dulci atro-cæruleo. *Tournef. Inst. p.* 622.

Class Icosandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 620.

Ess. Gen. Ch. *Cal.* 5-fidus, inferus. *Petala* 5. *Drupæ* nux suturis prominulis.

Sp. Ch. P. pedunculis subsolitariis, fol. lanceolato-ovatis convolutis, ramis muticis. *Gemmæ floriferæ aphyllæ.* Mur.

Prunus domestica

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THIS species of Prunus grows much higher than the former; it is without spines, and covered with smooth bark of a dark brown colour: the leaves are oval, slightly indented at the edges, pointed, veined, of a pale green colour, and stand upon very short foot-stalks: the stipulæ are oval, pointed, membranous, and placed in pairs at the base of the peduncles: the flowers are large, and surround the branches upon separate peduncles: the calyx is divided into five narrow concave segments, and beset on the inside with a number of glandular hairs:[a] the corolla consists of five roundish white petals: the filaments are more than twenty, tapering, inserted in the calyx, and furnished with reddish antheræ: the germen is round, and supports a simple style, which is shorter than the filaments, and crowned with a globular stigma: the fruit is oblong, or egg shaped, consisting of a sweet fleshy pulp, covered with a dark violet coloured pellicle, and including in the centre an almond-shaped nut, or stone. It is a native of Britain, and flowers in April and May.

Among the many varieties of plums[b] we find considerable difficulty in referring with sufficient accuracy to that called by the London College Prunum gallicum; it is therefore probable that some of the synonyma introduced above, are not in this respect so correctly applicable as they ought to be.[c] The Syrian Plums were much esteemed by the ancients, particularly a species which

[a] See Withering, l. c.

[b] Du Hamel (*Arbres fruit. T.* 2. *p.* 65. *sq.*) describes forty-eight varieties: and Mayer (*Pomona Francon. T.* 1. *p.* 110.) makes them still more numerous.

The original parent of these varieties is not yet satisfactorily ascertained.—J. Bauhin refers it to the Pruna cerea minora præcocia.

[c] On this subject Professor Murray says, "Hisce Pharmacopœia Londinensi duce intelligo vulgaria ista oblonga, profunde violacea, ubivis in hortis reperiunda, cui varietati non audeo in brevitate descriptionum adscribere nomen Bauhinianum vel Tournefortianum, nisi sit Pruna oblonga cœrulea C. B. vel. Pr. fructu oblongo cœruleo Tournef." App. Med. vol. iii. p. 230.

grew in the neighbourhood of Damascus,[d] and hence a variety of this fruit is still known by the name of Pruna damascena. According to Pliny,[e] the tree was brought from Syria into Greece, and from thence into Italy, where its fruit is repeatedly noticed by the Latin poet.[f]

All our garden plums are eaten at table, and when sufficiently ripe, and taken in a moderate quantity, prove a pleasant and wholesome food. But in an immature state, they are more liable to produce colicky pains, diarrhæa, or cholera, than any other fruit of this class; some attention to this circumstance is therefore always necessary. Considered medicinally, they are emollient, cooling, and laxative, especially the French prunes, which are imported here in their dried state from Marseilles; and though the laxative power of these is diminished by drying, yet it is observed by Dr. Cullen, that as they contain a great deal of the acid which they originally had, they have more effect in this way than the other dried fruits.[g] They are found to be peculiarly useful in costive habits, and are frequently ordered in decoction with senna or other purgatives. It is the pulp of this fruit which is directed in the Electuarium è Senna, or Lenitive electuary.

[d] See Dioscorides, *(Lib. i. cap.* 1. 174.) by whom the tree is called Κοκκυμηλεα, and the fruit Κοκκυμηλα.

[e] *Hist. Nat. L. xv. cap.* 13.

[f] It is also thus mentioned by Ovid:

Prunaque, non solum nigro liventia succo,
Verum etiam generosa, novasque imitantia ceras.

Met. *Lib. xiii. v.* 818.

[g] *Mat. Med. vol. i. p.* 254.

Citrus Aurantium.

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CITRUS AURANTIUM. ORANGE-TREE.

SYNONYMA. Aurantium * hispalense. *Pharm. Lond. & Edinb.* Malus Arantia major. *Bauh. Pin. p.* 436. Malus Aurantia. *Gerard. Emac. p.* 1463. *Raii Hist. p.* 1658. Aurantium vulgare. *Ferrar. Hesp. p.* 377. *t.* 369. Malus Aurantia vulgaris. *Park. Theat. p.* 1508. *Ic. Miller Illust. & Regnault Botanique,* L'Oranger.

α Malus Arantia major. *Bauh. l. c.* *Seville Orange Tree.*
β Malus Arantia, cortice dulci eduli. *Bauh. l. c.* *China Orange-Tree.*

Class Polyadelphia. *Ord.* Icosandria. *Lin. Gen. Plant.* 901.

Ess. Gen. Ch. *Cal.* 5-fidus. *Petala* 5, oblonga. *Antheræ* 20, filamentis connatis in varia corpora. *Bacca* 9-locularis.

Sp. Ch. C. petiolis alatis, foliis acuminatis.

THIS handsome evergreen rises several feet in height, sending off many branches, and covered with a greyish bark: the leaves are nearly elliptical, pointed, smooth, entire, of a shining green colour, and stand upon strong winged footstalks: the flowers appear during the whole summer, and are large, white, and arise from the smaller branches upon simple and branched peduncles: the calyx is saucer-shaped, and cut at the brim into five small pointed teeth: the petals are five, oblong, white, concave, and beset with small glands: the filaments are about twenty, united at the base in three or more distinct portions, and furnished with yellow antheræ, placed vertically: the germen is roundish, supporting a cylindrical style, terminated by a globular stigma: the fruit is so well known, as not to require our description of it here.

* Aurantium has been supposed by some to be derived ab aureo colore corticis fructus; by others, Arantium, ab oppido Achaiæ. See *C. B. l. c.* Also *Ray l. c.*

This tree, according to Mr. Aiton,[a] is a native of India; but it has been long cultivated in the warmer parts of Europe, and the fruit brought to us is chiefly the produce of Spain and Portugal. Since the time of Parkinson,[b] Orange-trees have been propagated here as ornamental green-house shrubs; but in this country the fruit rarely arrives at the perfection of that which is imported from Spain.

The China Orange, and Seville Orange, are both varieties of the same species; but it is only the latter which has a place in the Materia Medica of our Pharmacopœias, in which not only the juice and exterior yellow rind of this fruit are directed for medicinal use, but also the leaves and flowers.

The juice is a grateful acid liquor, which, by allaying heat, quenching thirst, promoting various excretions, and diminishing the action of the sanguiferous system, proves of considerable use in all febrile and inflammatory disorders. It is also a powerful antiseptic, and of great efficacy in preventing and curing the scurvy.[c] Though what is here observed relates to the juice of

[a] *Hort. Kew. vol. iii. p.* 101.

[b] 1629, See *Park. Parad. p.* 584. [c] See *Lind on Scurvy, p.* 163.

The practice of evaporating this juice, or making it into what has been called a rob, in order to preserve it a length of time on ship board, has been recommended; but Dr. Cullen says, "in many trials which I have made, I could not exhale it to such a consistence as would preserve it without addition, without my finding the acid a good deal changed. It acquires an acerbity and stipticity that does not allow it to be readily diffused in water; and I suspect it is not so readily miscible with the animal fluids as in its entire state. From Forster's observations in the voyage round the world, it was not found useful either in preventing or curing the scurvy; which perhaps may be accounted for, partly by the concentration bringing it nearer to the state of the fossile acids, or possibly by the dissipation of some volatile parts, perhaps a portion of aëriel acid; both of which circumstances may render it less fit for the cure of scurvy. I have therefore a bad opinion of the acid exhaled to a thick consistence; and judge the best way of preserving its virtues to be by a diligent depuration of it from its mucilaginous part, and putting it up in close vessels, without putting any oil on its surface, which is ready to be acted upon by the acid, and gives a disagreeable taint to it." *Mat. Med. vol. i. p.* 252.

the Seville Orange, yet that of the China, by being united with a larger proportion of saccharine matter, is more agreeable to the taste, therefore mostly preferred, and may be taken more freely. These acids, by uniting with the bile, are said to take off its bitterness; hence Dr. Cullen thinks it "probable, that acid fruits taken in are often useful in obviating the disorders that might arise from the redundancy of bile, and perhaps from the acrid quality of it. On the other hand, however, if the acids are in greater quantity than can be, or are, properly corrected by the bile present, they seem, by some union with that fluid to acquire a purgative quality, that gives a diarrhœa, and the colic pains that are ready to accompany the operation of every purgative."[d]

The outer yellow rind of the fruit is a grateful aromatic bitter, and is commonly employed as a stomachic, a character in which it is deservedly much esteemed. By the union of its aromatic and bitter qualities it warms the stomach, promotes appetite, and gives tone and strength to the viscera. It contains a considerable portion of volatile aromatic oil, very different from that of any other bitter, except what is found in the lemon; and the combination of this oil with the bitter of the orange peel, according to Dr. Cullen, gives it peculiar virtues; but the Orange-peel being commonly employed in conjunction with other bitters, these virtues have not been ascertained.[e] He adds, that he has "made several observations, which justify the opinion that Orange peel may be particularly useful in restoring the tone of the stomach when it has been much impaired; but this does not appear so often as it should, because we employ it almost only in its dried state, and in too small a proportion, as we take it dried with a part of the white inert substance that is also in the rind of the Orange."[f]

It has been justly remarked,[g] that "Orange-peel appears to be very considerably warmer than that of lemons, and to abound

[d] *L. c.* [e] *Cullen, M. M. vol. ii. p.* 87. [f] *L. c.*

[g] See *Edinburgh New Dispensatory by Dr. Duncan, p.* 139.

more with essential oil: to this circumstance, therefore, due regard ought to be had in the use of these medicines. The flavour of the first is likewise supposed to be less perishable than that of the other: hence the London College employ Orange-peel in the spirituous bitter tincture, which is designed for keeping; whilst in the bitter watery infusion, lemon-peel is preferred. A syrup, and distilled water, are for the same reason prepared from the rind of Oranges in preference to that of lemons."

Besides the use of Orange-peel as a stomachic, it has been much celebrated for the cure of intermittent fevers; and in testimony of its efficacy in most obstinate agues, we find several authorities cited by Professor Murray.[h] It has likewise been experienced to be a powerful remedy in menorrhagia, and in immoderate uterine evacuations; and for its good effects in these complaints, we have not only the assertion of foreign physicians, but also those of Doctors Whytt[i] and Hamilton.[k]

The flowers, which are extremely fragrant, and much used in perfumes, have a warm taste, accompanied with some degree of bitterness. "They yield their flavour by infusion to rectified spirit, and in distillation both to spirit and water: the bitter matter is dissolved by water, and on evaporating the decoction, remains entire in the extract. An oil, distilled from these flowers, is brought from Italy, under the name of oleum, or essentia neroli."[l]

The leaves of the Orange-tree have a bitterish taste, and, on being rubbed between the fingers and thumb, manifest considerable fragrancy; like the petals they are also beset with

[h] As Dubeus. *Medecin des pauvres. p.* 285. *sqq.* Both he and Nigrisolius declare it to be equal, if not superior in efficacy, to the Peruvian bark. See also Möhringius *Com. Noric.* 1736. *p.* 20. And Werlhof. *Com. Nor.* 1735. *p.* 98. *Murray. App. Med. vol. iii. p.* 289.

[i] See his *Works, p.* 662. [k] *De prax. reg. p.* 20.

[l] *Edinb. New Disp. p.* 139. Also called oleum distillatum florum naphæ.

minute glands, which secrete an essential oil, and are easily discovered on holding the leaf betwixt the eye and the light. Both the leaves and the flowers,[m] but especially the former, have been in great estimation as a remedy for epilepsy, and various other convulsive disorders. Westerhoef, who seems to have first made public this virtue of the leaves, about thirty years ago, transmitted an account of their efficacy to De Haen,[n] who also experienced their good effects; after which they became a favourite remedy at Vienna, and numerous instances of their success in these complaints are published by several German physiciars.[o]

Their employment, however, in this country has been attended with less success; proofs of which are given by Professors Home[p] and Cullen.[q] The dose of the powdered leaves is from half a dram to a dram, two or three times a day, and proportionably in decoction.

The young unripe fruit formerly had a place in the Edinburgh Pharmacopœia, under the name of Aurantia curaslavensia, or Curasso oranges. The Limon Bergamotta of the Italians, from whom we have the essence so named, approaches more nearly to the Orange than to the lemon, as its leaves have winged footstalks.

[m] Bergius states the former to be tonic and the latter analeptic. *M. M. vol. ii. p.* 638.

[n] *Rat. Med. T.* 6. *p.* 305. *sqq.*

[o] Locher, who gave this medicine to fifteen epileptic patients, says, that nine were evidently much relieved by it, though not cured. *Obs. Pract. p.* 47.—See the authorities cited by Murray. *l. c.*

[p] *Clinical Experiments. p.* 211.

[q] *L. c.*

CITRUS MEDICA. LEMON-TREE.

SYNONYMA. Limon. *Pharm. Lond. & Edinb.* Malus medica. *Bauh. Pin. p.* 435. *Gerard. Emac. p.* 1462. Malum citreum vulgare. *Ferrar. Hesp. p.* 56. *t.* 69. Malus citria sive medica. *Raii Hist. p.* 1654. *Park. Theat. p.* 1506. Le Citronier. *Regnault. Botanique.* Μηλεα μηδικη *Theophrast. & Dioscor.* β Malus Limonia acida. *Bauh. Pin. p.* 436. Lime-Tree.

Class Polyadelphia. *Ord.* Icosandria. *Lin. Gen. Plant.* 901.

Ess. Gen. Ch. *Cal.* 5-fidus. *Petala* 5, oblonga. *Antheræ* 20, filamentis connatis in varia corpora. *Bacca* 9-locularis.

Sp. Ch. C. petiolis linearibus.

THIS tree is equally beautiful as that of the orange, which it much resembles, so that at a little distance they are not easily to be distinguished: the leaves however of the Lemon-tree are commonly larger, slightly indented at the edges, and are without those winged appendages at the footstalks, which constitute the specific character of the orange: the flowers, which appear most part of the summer, are large, and the outer side of the petals have usually a purplish tinge: the other parts of inflorescence resemble those of the orange: the fruit has a prominent apex, externally of a pale yellow or straw-colour, internally divided into nine cells, containing an extremely acid juice.

This tree is a native of the upper parts of Asia, from whence it was brought to Greece, and afterwards by Paladius to Italy.[a] Although it has been doubted whether Paladius was really the

[a] Etenim Citrus apud Medos et Persas imprimis frequens, dein Paladii diligentia in Italiam translata fuit: postea in Hispania in usum devenit, ut nemora & campos occuparit. *Bauh. Pin. p.* 435.

Citrus . Medica

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first cultivator of this tree in Italy, yet it is evident it could not have been propagated there long before his time, as appears by the writings of Pliny;[b] nor is its cultivation noticed by Varro, Cato, or Columella.

After its introduction into Europe, we find Spain, Portugal, and France, became successively possessed of this valuable plant, with its congeners; and the Hesperian fruits are now produced in such abundance, that their exportation gives rise to a lucrative branch of commerce.

The Lemon-tree, like the orange, is common in our green-houses; and according to the Hortus Kewensis, was first cultivated in Britain in the Oxford garden, previous to the year 1648.[c]

The juice of the fruit, which is more acid than that of the orange, possesses similar medical virtues, and therefore what we have already said of the latter will equally apply to the former. However this juice is always preferred where a strong vegetable acid is required. Saturated with the fixed vegetable alkali, it is in frequent extemporaneous use in febrile diseases; and by promoting the secretions, especially that of the surface, proves of considerable service in abating the violence of pyrexia. This medicine is also often employed to restrain vomiting. As an antiscorbutic, Lemon juice is also very generally taken on board ships, destined for long voyages; but even when well depurated of its mucilaginous parts, it is found to spoil by long keeping; to prevent which various means have been devised.[d] We are told that, by mixing it with a fifth or sixth part of brandy or rum, it underwent no change during thirty-two months;[e] but by being mixed with the spirit, it must have lost a part of its

[b] See *Hist. Nat. l.* 12. *c.* 3. [c] See *Hort. Oxon. ed.* 1.

[d] However, when purified as mentioned by Dr. Cullen, (which we have related of the orange juice) and kept in a proper cellar, it has been found to retain its qualities unimpaired for four years. Vide Georgii in *Vet. Acad. Handl.* 1774. *p.* 245. *sqq.*

[e] *Forster's Voyage, p.* 638.

sharpness. As to reducing it to the state of a rob, we have already noticed the objections of Dr. Cullen in treating of the orange juice.

To preserve Lemon juice in purity for a considerable length of time, it is necessary that it should be brought to a highly concentrated state, and for this purpose it has been recommended to expose the juice to a degree of cold sufficient to congeal the aqueous and mucilaginous parts. After a crust of ice is formed, the juice is poured into another vessel; and by repeating this process several times, the remaining juice, we are informed, has been concentrated to eight times its original strength, and kept without suffering any material change for several years.[f] The ice first formed is wholly void of acidity, but the subsequent congelations become more and more imbued with the acid.

Whytt found the juice of Lemons to allay hysterical palpitations of the heart, after various other medicines had been experienced ineffectual;[g] and this juice, or that of oranges, taken to the quantity of four or six ounces a-day, has sometimes been found a remedy in the jaundice.[h]

The exterior rind of Lemons is a grateful aromatic bitter, but less hot than orange-peel, and yields in distillation a less quantity of oil: the oil is extremely light, almost colourless, in smell nearly as agreeable as the fresh peel, and frequently employed as a perfume: it is generally brought to us from the southern parts of Europe, under the name of Essence of Lemons. The Lemon peel,

[f] See *Georgii, l. c.*

Lemon juice also may be evaporated by the heat of the sun, till it forms a solid salt, in which state it was brought from Jamaica, and found extremely grateful to the taste, and in such a concentrated state, that one scruple of it dissolved in a quantity of water equal to the juice contained in a lemon, was rendered of the same degree of acidity. See Percival *Phil. Med. & Experimental Essays*, p. 219.

[g] *On Nervous Disorders.* See his Works, p. 649.

[h] Vide Saunders *Elements of the Practice of Physic*, p. 170.

Punica Granatum

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though less warm, is similar in its qualities to that of the orange, and is employed with the same intentions.

The Pharmacopœias direct a syrup of the juice, and the peel enters into the vinous and aqueous bitter infusions: it is also ordered to be candied: the essential oil is an ingredient in the spiritus amoniæ compositus, and other formulæ.

PUNICA GRANATUM. POMEGRANATE TREE.

SYNONYMA. Granatum. *Pharm. Lond. & Edinb.* Malus Punica sativa. *Bauh. Pin. p.* 438. *Park. Theat. p.* 1510. Malus Punica. *J. Bauh. Hist. vol. i. p.* 76. Malus Granata sive Punica. *Gerard. Emac. p.* 1450. Punica spinosa, foliis nitentibus, ellipticis, integerrimis, floribus sessilibus. *Hal. Stirp. Helv. n.* 1098. *Conf.* Du Hamel *Traité des arbres, t.* 2. *p.* 193. *et* Miller *Illustr. Syst. Sex.* β Punica floribus plenis. Theophrasti *et* Dioscoridi *arbor ejusque fructus dicitur* Ροα; Hippocrati *arbor audit* Σιδη, *unde cortex fructus* Σιδιον vel Ροινε. *Flores Punicæ sativæ autem* Dioscoridi *et* Galeni Κυτινοι *hodie* Balaustiorum Flores, *vocantur.*

Class Icosandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 618.

Ess. Gen. Ch. *Cal.* 5-fidus, superus. *Petala.* 5. *Pomum* multiloculare polyspermum.

Sp. Ch. P. foliis lanceolatis, caule arboreo.

THIS small tree rises several feet in height: it is covered with a brownish bark, and divided into many small branches, which are armed with spines: the leaves are oblong, or lance-shaped, pointed, veined, of a deep green colour, and placed upon short footstalks: the flowers are large, of a rich scarlet colour, and stand

at the end of the young branches: the corolla is composed of five large roundish slender petals, with narrow claws, by which they are inserted into the calyx: the calyx is large, thick, fleshy, tubular, of a brownish red colour, and divided at the extremity into five pointed segments: the filaments are numerous, short, bent inwards, furnished with yellow antheræ, and attached to the calyx: the germen is roundish, and supports a simple style, of the length of the filaments, and terminated by a globular stigma: the fruit is about the size of an orange, and crowned with the five teeth of the calyx: the rind is thick and tough, externally reddish, internally yellowish, filled with a red succulent pulp,[a] contained in transparent cellular membranes, and included in nine cells, within which numerous oblong angular seeds are also lodged. This shrubby tree is a native of Spain, Italy, and Barbary, and flowers from June to September.

The Greek writers were well acquainted with the Pomegranate, as appears from what we have already mentioned under the *Synonyma;* and Pliny tells us that its fruit was usually sold in the neighbourhood of Carthage.[b] The cultivation of this tree in England is first to be dated from the time of Gerard, in 1596;[c] and though its fruit seldom arrives to a state of perfection in this country,[d] yet the large and beautiful scarlet flowers[e] which it produces, still render it a desirable object of ornamental gardening. The rind of the fruit, and the flowers, the calyces of which may be included, are the parts directed in the Pharmacopœias for medicinal use. The fruit has been called cortex granati, malicorium, sidium, &c. In its smell there is nothing remarkable, but to the

[a] This is gratefully acid, somewhat like that of oranges.

[b] —— Circa Carthaginem punicum malum cognomine sibi vèndicat; aliqui granatum appellant. l. 13. c. 19. p. 333.

[c] Vide Aiton's Hort. Kew.

[d] Miller tells us that he obtained fruit from some of these trees which were planted in a warm situation, but they had not the proper flavour.

[e] The double flowered sort, more especially, makes a very beautiful appearance.

taste it is very astringent. "With water it yields near half its own weight of a very austere extract, but gives out very little to rectified spirit; its astringent matter, like that of the fruit of the acacia tree, seeming to be indissoluble in spirituous menstrua: in this respect the astringency of the fruit differs from the latter,"[f] which are named Balaustium or Balaustine flowers; these are commonly taken from the double-flowered variety, and like the rind have little or no smell, but a mild bitterish styptic taste. They are both powerful astringents,[g] and with this effect have long been successfully employed in diseases both internally and externally. Dr. Cullen observes that "the strong styptic taste of this bark, "and the black colour it strikes with green vitriol, shew sufficiently "its astringent power; and it is commonly supposed to be among "the strongest of this kind. As at the same time, it gives out "such a large portion of its substance to water in infusion or "decoction, it seems to be particularly fit for affording a liquid "astringent, and I have frequently found it particularly useful "in gargles, in diarrhœa, and in external applications. That it "is so powerful an astringent internally used, as to be more "dangerous than others, I cannot perceive; and that it has ever "had the power of suppressing the catamenia, seems to me very "doubtful."[h] The dose, in substance, is from half a dram to a dram; in infusion or decoction, to half an ounce.

[f] Lewis Mat. Med. p. 328.

[g] Virtus *corticis:* validus adstringens, coriaria; *florum:* paullo mitior; *pulpæ* refrigerans, restringens. Berg. M. M. p. 398.

[h] M. M. vol. ii. p. 44.

[i] Usus *cort.* externus, Laxitas uvulæ, Procedentia intestini. Berg. l. c.

RIBES RUBRUM. RED CURRANT.

SYNONYMA. Ribes rubrum. *Pharm. Lond.* Ribes vulgaris fructu rubro. *Gerard. Emac. p.* 1593. *Raii Hist. p.* 1485. *Synop. p.* 456. Ribes fructu rubro. *Park. Theat. p.* 1561. Ribes vulgaris acidus ruber. *J. Bauh. Hist. ii. p.* 97. Grossularia, multiplici acino, sive non spinosa hortensis rubra. *Bauh. Pin. p.* 455. Ribes inerme floribus planiusculis stipulis minimis. *Hal. Stirp. Helv. n.* 818. *Hudson Flor. Ang. p.* 99. *Withering. Bot. Arrang. p.* 243.

α Ribes rutilum. *Red Currant.*

β Ribes album. *White Currant.*

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 281.

Ess. Gen. Ch. *Petala* 5 et *Stamina* calyci inserta. *Stylus* 2-fidus. *Bacca* polysperma, infera.

Sp. Ch. R. inerme, racemis glabris pendulis, floribus planiusculis.

THIS shrub grows five or six feet in height, is divided into many branches, and covered with a dark brown bark, except that of the young branches which is whitish or ash-coloured: the leaves are serrated, veined, divided into five, and sometimes seven lobes, of a pale green colour, and stand upon tapering footstalks, which are about the length of the leaves, and hairy towards the base: the bracteæ are small, oval, pointed, and placed at the base of the leaf stalks and peduncles: the flowers grow in lateral pendulous racemi, or clusters, and appear in April: the calyx is divided into five spreading, reflexed, pointed, oblong, concave, permanent

Ribes rubrum

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segments, which are of a yellowish green colour: the corolla is composed of five small obtuse upright petals, of a yellowish colour, and inserted in the calyx: the filaments are five, tapering, erect, and inserted in the calyx: the antheræ are compressed, gaping at the edges, and attached at their sides to the filaments: the germen is roundish, placed below the corolla, and supports a cloven style, with obtuse stigmata: the fruit is a round shining red berry, of one cell, separated into two receptacles, and containing many roundish seeds. It is a native of Britain, and usually grows in dry woodlands.

As the white Currant-tree is merely a variety of the red, the fruit of both, whether considered in a botanical or medical sense, is perfectly analogous; therefore what is observed here of the latter will apply equally to the former.

It is well known that the red Currant is abundantly cultivated in our gardens, whence we are plentifully supplied with the fruit, which, from its grateful acidity, becomes universally acceptable, either as nature presents it, or variously prepared by art[a] with the addition of sugar. By Dr. Cullen, this fruit is classed with the alimentary plants, and from being generally and exclusively considered as such, it was not received in the British catalogues of the Materia Medica till that published in the last edition of the London Pharmacopœia.

The medicinal qualities of red Currants appear to be similar to those of the other subacrid fruits, which are esteemed to be moderately refrigerant, antiseptic, attenuant,* and aperient. They may be used with considerable advantage to allay thirst in most febrile

[a] "The juice is a most agreeable acid in punch. If equal weights of picked currants and pure sugar are put over the fire, the liquor that separates spontaneously is a most agreeable jelly." *Withering. l. c.* The juice of red currants, with sugar, is a common beverage at Paris, where it is generally preferred to orgeat, or lemonade.

* Hoffman and Boerhaave had great confidence in the efficacy of these fruits in obstinate visceral obstructions.

complaints; to lessen an increased secretion of bile;[b] and to correct a putrid and scorbutic state of the fluids, especially in sanguine temperaments: but in constitutions of a contrary kind, they are apt to occasion flatulency and indigestion.

[b] See *Maclurg on the Bile*, where the effects of the vegetable acid are considered.

RIBES NIGRUM. BLACK CURRANT.

SYNONYMA. Ribes nigrum. *Pharm. Lond.* Ribes nigrum vulgo dictum folio olente. *J. Bauh. Hist. ii. p.* 98. *Raii Hist. p.* 1486. *Synop. p.* 456. Grossularia non spinosa fructu nigro. *Bauh. Pin. p.* 455. Ribes fructu nigro. *Park. Theat. p.* 1562. *Gerard. Emac. p.* 1593. Ribes inerme, olidum, calyce oblongo, petalis ovatis. *Hall. Stirp. Helv. n.* 819. *Hudson Flor. Ang. p.* 99. *Withering. Bot. Arrang. p.* 243.

Class. Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 281.

Ess. Gen. Ch. *Petala* 5 et *stamina* calyci inserta. *Stylus* 2-fidus.
Bacca polysperma, infera.

Sp. Ch. R. inerme, racemis pilosis, floribus oblongis.

THE Black Currant-tree usually rises six or seven feet in height: the old wood is covered with a dark brown or blackish bark, but that of the younger shoots is of a whitish colour: the leaves are commonly divided into three lobes, much veined, irregularly serrated, of a deep green colour, and on the under side beset with many yellowish glands, which secrete an odoriferous fluid, impregnating the whole leaf; the leaf-stalks are similarly shaped to those of the red currant: the bracteæ, or floral leaves, are oval, short, and woolly: the flowers are produced in pendent bunches, upon slender pedicles, placed alternately upon the common racemus, or peduncle: the calyx is divided into five oval spreading segments, of a pale green or yellowish colour: the corolla is

Ribes nigrum

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composed of five roundish petals: the nectarium is larger than that in the red currant, and the fruit or berries are black. In other respects, the parts of fructification correspond with the description already given of the red currant. It is a native of Britain, preferring a swampy ground, and flowers in May.

The berries of the black Currant are larger than those of the red; and we are told that in some parts of Siberia they grow to the size of an hazel nut. Besides having the properties in common with the *fructus acido-dulces,* these berries are also said to be peculiarly useful in sore throats, and to possess a diuretic power in a very considerable degree. From those qualities which they manifest to the organs of taste, there can be little doubt but that in cases of inflammatory angina, they may be advantageously employed to answer the same intentions as gargles:[a] the proofs however of their diuretic powers seem to want confirmation, as Forestus, on whose authority they rest, and who first noticed this property of the black currant, constantly prescribed it in combination with the seeds of wild carrot.[b]

The leaves of the black Currant are extremely fragrant, and have been likewise recommended for their medicinal virtue, which Bergius states to be mundificans, pellens, diuretica.[c]

The officinal preparations of the black currant berries, in the London Pharmacopœia, are the *syrupus ribis nigri,* and the *succus ribis nigri inspissatus.*

[a] From their efficacy in this way they acquired the name of Squinancy berries.

We may observe here, that the black currant jelly in common domestic use for this purpose, is rendered less efficacious by having too much sugar in its preparation.

Both the fruit of this, and of the red currant, afford a pleasant wine; and that made of the former is mentioned by Haller, "Ex eo optimum vinum fieri non deterius vinis verioribus viteis, quando annuum est." l. c. Smith *Nat. Hist. of Cork. p.* 359.

[b] *Opp. Lib.* 25. *Obs.* 10.

[c] *Mat. Med. vol. i. p.* 155. An infusion of these leaves is said to have the taste of green tea; and when prepared from the young leaves, is to some people peculiarly agreeable.

ORD. XXIX. HESPERIDEÆ.

(From the *Hesperides,* whose orchards are said to have produced golden apples.)

CARYOPHYLLUS AROMATICUS. CLOVE TREE.

SYNONYMA. Caryophyllum aromaticum. *Pharm. Lond. & Edinb.* Caryophyllus aromaticus, fructu oblongo. *Bauh. Pin. p.* 410. *Raii Hist. p.* 1508. Caryophylli. *Park. Theat. p.* 1577. *Gerard. Emac. p.* 1535. Caryophyllus aromaticus, Indiæ orientalis, fructu clavato monopyreno. *Pluk. Alm.* 88. *t.* 155. *f.* 1. Caryophyllum. *Rumph. Herb. Amb. vol. ii. t.* 1. 2. *sq.* Caryophyllus Kruidnagelboom. *Houttuyn natuurlyke historie, vol. ii. P.* 3. *p.* 44. *tab.* 12. *fig.* 1. Le Geroflier. *Sonnerat Voyage à la Nouvelle Guinée. p.* 196. *tab.* 119.

Class Polyandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 669.*

Ess. Gen. Ch. Cor. 4-petala. *Cal.* 4-phyllus, duplicatus. *Bacca* 1-sperma, infera.

Sp. Ch. C. foliis ovato-lanceolatis oppositis, floribus terminalibus, &c. *Mill. Dict.*

* The Caryophyllus evidently belongs to the class Icosandria; and modern botanists refer it to the genus Eugenia.

Cirrhopetalum aromaticum

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THIS tree never rises to any considerable height, but divides into large branches, which are covered with smooth greyish bark: the leaves are large, entire, oblong, lance-shaped, of a bright green colour, and stand in pairs upon short footstalks: the flowers terminate the branches in bunches or pannicles: the calyx of the fruit is divided at the brim into four permanent small pointed segments, and that of the flower is composed of four leafits, which are roundish, concave, deciduous, and placed above the germen: the corolla consists of four petals, which are roundish, notched, very small, and of a bluish colour:† the filaments are numerous, slender, inserted in the calyx, and furnished with simple antheræ: the germen is oblong, large, terminated by the calyx of the fruit, and placed below the insertion of the corolla: the style is tapering, and the stigma simple; the pericarpium is one celled, umbilicated, and terminated by the indurated converging calyx: the seed is a large oval berry.[a]

It is a native of the East Indies, the Moluccas, &c. and was lately found by Sonnerat in New Guinea. It has been asserted that the Dutch, who have long been in possession of the principal spice islands, destroyed all the Clove trees growing in the other islands, in order to secure a lucrative branch of commerce to themselves, and confine the cultivation of this tree to the island of Ternate;[b] but it appears that in 1770 and 1772, both the Clove and Nutmeg trees were brought from one of the Moluccas, and transplanted in the Isle of France, Bourbon, and Seickelles,[c] where they have been found to thrive very well, (see Nutmeg) though the Clove tree has since succeeded better in Cayenne.[d]

† We examined this plant preserved in spirit, in the possession of the President of the Royal Society, but without finding any corolla.

[a] The fruit, in its mature state, is known by the name *Anthophyllus.*

[b] Savary, *Dict. vol. ii. p.* 653.

[c] *Hist. de l'Acad. de Sc. de Paris,* 1772.

[d] Tessier, *in Rozier Journ. de Phys.* 1779.

To bring this tree to the highest perfection, a peculiar mode of cultivation seems necessary, and is practised in Amboina by the Dutch, by whom it is kept a profound secret.[e] If the Clove was known to the Greeks, it cannot be discovered by their writings, nor is there any distinct account of it given by Pliny; but it seems in some measure applicable to the description of the Carunfel of Serapion, and the Charumfel Bellun of Avicenna,[f] so that this spice, as well as the nutmeg, was probably known to the Arabians.

The spice used here, and known by the name of Cloves, is the unexpanded flowers or rather calyces, which are found to be more aromatic than in their advanced state; they are of a dark brown colour, which they acquire from the smoke to which they are exposed; for in order to preserve the Cloves it is customary first to immerse them in boiling water, and then subject them to fumigation, or merely to fumigate them, and afterwards expose them to the sun for further exsication.

The Clove has a strong agreeable smell, and a bitterish hot not very pungent taste: these qualities are completely extracted by rectified spirit. After inspissating the filtered tincture, the remaining extract has little smell, but its taste is excessively hot and fiery. Cloves impregnate water more strongly with their smell than they do spirit, but not near so much with their taste; and in distillation with water they yield one-sixth of their weight of essential oil, smelling strongly of the Cloves, but less pungent than the spirituous extract.

" The oil of Cloves commonly met with in the shops, and received from the Dutch, is indeed highly acrimonious: but this oil is plainly not the genuine distilled oil of Cloves, but considerably more pungent, containing half its weight of an insipid expressed oil: it is probably from an admixture of the resinous part of the Clove that this sophisticated oil receives both its acrimony and high colour."[g]

[e] *Rumph. l. c.* [f] *Vide J. Bauh. Hist. vol. i. p. 426.*

[g] *Lewis, M. M. p. 203.*

Hypericum Pimenta.

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Clove is accounted the hottest and most acrid of the aromatics, and by acting as a powerful stimulant to the muscular fibres, may in some cases of atonic gout, paralysis, &c. supersede most others of the aromatic class; and the foreign oil, by its great acrimony, is also well adapted for several external purposes.

The essential oil is the preparation of this spice directed by the pharmacopœias, which, as well as the Clove itself, enters several officinal compositions.

MYRTUS PIMENTA. PIMENTO, JAMAICA PEPPER, ALL-SPICE.

SYNONYMA. Pimento. *Pharm. Lond.* Pimenta & Piper Jamaicensis. *Pharm. Ed.* Caryophyllus aromaticus Americanus, Lauri acuminatis foliis, fructu orbiculari. *Pluk. Phyt.* 155. f. 4. Amomum quorundam odore Caryophylli, J. B. Caryophyllus aromaticus fructu rotundo, Caryophyllon Plinii. *Bauh. Pin.* Piper adoratum Jamaicense nostratibus. *Raii Hist.* 1507. Myrtus arborea aromatica foliis laurinis. *Sloane's Jam.* vol. 2. p. 76. Caryophyllus foliis oblongo-ovatis glabris alternis, racemis terminalibus et lateralibus. *Browne's Jam.* p. 247. Caryophyllus foliis lanceolatis oppositis, floribus racemosis terminalibus & axillaribus. *Miller's Dict.*

Class Icosandria.* *Ord.* Monogynia. *Lin. Gen. Plant.* 217.

* "Some of these trees are frequently observed to be barren, which has introduced a notion among the people of Jamaica of their being male and female trees in general; and that some of the male or barren trees were necessary in every *walk;* which, as they are commonly many, is a vast detriment. It is however certain, that all those I have observed were hermaphrodites: and I am credibly informed, that those they call males, when lopped and broke like the rest for one or two years, do bear very well: which I am the more apt to believe, as I have never observed a distinct male or female flower on any of them." Browne, l. c.

Ess. Gen. Ch. *Cal.* 5-fidus, superus. *Petala.* 5. *Bacca.* 2. s. 3-sperma.

Sp. Ch. M. floribus trichotomo-paniculatis foliis oblongo-lanceolatis. *Hort. Kew.*

Varietates, α foliis oblongo-lanceolatis acuminatis; acumine obtuso.
β foliis ovalibus obtusis. *Hort. Kew.*

THIS handsome myrtle grows above thirty feet in height, and two in circumference; the branches near the top are much divided, and thickly beset with leaves, which by their continual verdure always give the tree a beautiful appearance; the bark is very smooth, externally, and of a grey colour; the leaves vary in shape, and in size, but are commonly about four inches long, veined, pointed, elliptical, and of a deep shining green colour; the flowers are produced in bunches, or panicles, and stand upon subdividing or trichotomous stalks, which usually terminate the branches; the calyx is cut into four roundish segments; the petals are also four, white, small, reflex, oval, and placed opposite to each other between the segments of the calyx; the filaments are numerous, longer than the petals, spreading, of a greenish white colour, and rise from the calyx and upper part of the germen; the antheræ are roundish, and of a pale yellow colour; the style is smooth, simple, and erect; the stigma is obtuse; the germen becomes a round succulent berry, containing two kidney-shaped flattish seeds. This tree is a native of New Spain and the West-India islands. In Jamaica it grows very plentifully, and in June, July, and August puts forth its flowers, which, with every part of the tree, breathes an aromatic fragrance.*

The Pimento tree was first introduced and cultivated in this country by Mr. Phil. Miller in 1739, and the figure we have annexed was drawn from a recent specimen, obtained from the

* "The leaves and bark are full of aromatic particles, which make them (the planters) extremely cautious of fire in all *Pimento Walks;* where, if it should once catch, it runs with great fury." Browne, l. c.

garden of his Grace the Duke of Northumberland at Sion-House, where the plant is now in full bloom. Pimento, or the berries of this species of myrtle, are chiefly imported into England from Jamaica, and hence the name Jamaica Pepper. It is also named All-spice from its taste being supposed to resemble that of many different species mixed together.—When the berries arrive at their full growth, but before they begin to ripen,[b] they are picked from the branches, and exposed to the sun for several days, till they are sufficiently dried; this operation is to be conducted with great care, observing that on the first and second day's exposure they require to be turned very often, and always to be preserved from rain and the evening dews. After this process is completed, which is known by the colour and rattling of the seeds in the berries, they are put up in bags or hogsheads for the market. This spice, which was at first brought over for dietetic uses, has been long employed in the shops as a succedaneum to the more costly oriental aromatics; "it is moderately warm, of an agreeable flavour, somewhat resembling that of a mixture of cloves, cinnamon, and nutmegs. Distilled with water it yields an elegant essential oil, so ponderous as to sink in the water, in taste moderately pungent, in smell and flavour approaching to oil of cloves, or rather a mixture of cloves and nutmegs. To rectified spirit it imparts, by maceration or digestion, the whole of its virtue: in distillation it gives over very little to this menstruum, nearly all its active matter remaining concentrated in the inspissated extract.

[b] "Such of the berries as come to full maturity do, like many other seeds, lose that aromatic warmth for which they are esteemed, and acquire a taste perfectly like that of Juniper berries, which renders them a very agreeable food for the birds, the most industrious planters of these trees." Browne, l. c. "The berries when ripe are of a dark purple colour, and full of a sweet pulp, which the birds devour greedily, and muting the seeds, afterwards propagate these trees in all parts of the woods. It is thought that the seeds passing through them, in this manner, undergo some fermentation, which fits them better for vegetating than those gathered immediately from the tree; and I believe this is the fact." Long's Jamaica, vol. 3. p. 703.

Pimento can scarcely be considered as a medicine: it is, however, an agreeable aromatic, and on this account is not unfrequently employed with different drugs, requiring such a grateful adjunct. Both the Pharmacopœias direct an aqueous and spirituous distillation to be made from these berries, and the Edinburgh College order also the Oleum essentiale piperis Jamaicensis.

MELALEUCA LEUCADENDRON. CAJEPUT-TREE, Or AROMATIC MELALEUCA.

Cajeput (oleum.) *Pharm. Murray. iii.* 319. *Bergius.* 639. *Ed. New Dispens.* 153.

SYNONYMA. Arbor alba (major) Caju Puti. *Rumph. Herb. Amb. vol. 2. p. 72. t.* 16. Melaleuca Kajupoetie. *Houttuyn Natuurlyke. Historie. P. 2. Sect. 3. p. 212. t.* 15. Melal. Leucadendra. *De Loureiro Flor. Cochin. p.* 468.

α M. latifolia, fol. falcatis lanceolatis acutis majoribus.

β M. angustifolia, fol. angustioribus oblongis vix falcatis brevioribus obtusis glaucis.

Polyadelphia Polyandria. *Lin. Mant.* 14.

Gen. Ch. *Cal.* 5-partitus, superus. *Cal.* 5-petala. *Filam.* multa, connata in 5 corpora. *Stylus* 1. *Caps.* semivestita calyce baccato, 3-valvis, 3-locularis.

Sp. Ch. M. Polyadelphia, foliis alternis lanceolatis subfalcatis quinquenerviis, spica elongata.

Melaleuca Leucadendron.

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THIS tree rises with a long flexible trunk, sending off irregular ascending branches, covered with a pale thick lamellated tough bark. Leaves linearly-lanceolate, entire, smooth, dense, five-nerved, ash-coloured, odorous, alternate, on short footstalks. Flowers white, sessile, in long subterminal spikes. Bracteæ floral, minute, ovate, pointed. Calyx tubular, five-parted, deciduous, of a brownish red. Corolla of five petals, roundish, concave, much longer than the calyx. Filaments about forty, united at the base in five or six bundles, long, capillary, unequal, inserted in the tube of the calyx, and furnished with small ovate incumbent antheræ. Germen below, roundish. Style filiform, somewhat swelled at the stigma. Capsule roundish, three-celled, three-valved, opening at the apex, and half inclosed by the calyx. Seeds numerous, oblong, small, compressed, angular.[a]

It is a native of India, where it commonly grows in the woods: the annexed figure was drawn from a very perfect botanical specimen of it in the herbarium of Sir Joseph Banks. The narrow leaved variety of this species was introduced into the Royal Garden at Kew, in 1775, from New Caledonia, by J. R. Forster, L L. D.[b]

The origin of Cajeput oil, or the vegetable from which it is obtained, was long unknown, and continued a matter of conjecture. As this essential oil is said to be somewhat similar in flavour and odour to the cardamom, an opinion very generally prevailed, that it was procured from a species of it. It is now however clearly proved to be derived from the Melaleuca Leucadendron, as observed by Linnæus in 1772,[c] and since confirmed by his son in the supp. plant.

That the leaves of this tree have an aromatic odour, resembling that of cardamom seed, and afford, by distillation, a fragrant

[a] This description is given on the authority of De Loureiro. l. c.

[b] *Hort. Kew.*

[c] *Diss. obs. in M. M. p. 5.*

essential oil, manifesting this aromatic principle still more strongly, is asserted by Valentynus and Rumphius; but as they called the oil by no peculiar name, it was not recognized as the Cajeput oil until some of these leaves were sent to Amsterdam, where, upon being subjected to distillation, an oil was obtained, agreeing, in every respect, with that of the best Cajeput.[d] This essential oil appears to be lodged in the minute glands or vesicles of the leaves, analogously to that noticed of the hypericum perforatum.[e]

Cajeput oil, (called also Oleum Wittnebianum, from Wittneben, who gave an account of the process for obtaining it,) though unknown in Britain, is now admitted into the Materia Medica of all the principal foreign pharmacopœias.

It is imported into Europe from the East Indies, and is distilled chiefly in the Island of Banda. Thunberg[f] says that it has the appearance of an inflammable spirit, of a green colour, and so completely volatile that it evaporates entirely, leaving no residuum; its odour is of the camphoraceous kind, with a terebinthinate admixture: when it is applied to the nostrils copiously, its smell is at first ungrateful, but in a small quantity, or at a distance, its odour is very agreeable. Goetz,[g] on the contrary, says that it is limpid, or rather yellowish, and that on being kept in a vial not closely corked, it diffuses at first a pleasant odour, which gradually changes to one somewhat like that of turpentine, and at length becomes similar to that of savine. Its taste, he says, is aromatic, and approaching to that of the oil of rosemary. A single drop, applied to the temples, produces a peculiar sensation in the interior canthus of the eyes, and excites tears, which he

[d] Vide *Nieuwe vaderlandsche Letter-Oeffningen. P.* 3. *n.* 3. *bladz.* 104.

[e] The leaves of this melaleuca, according to De Loureiro, are an useful medicine; he says, they are "attenuant, strengthening, stomachic, diuretic, emmenagogue, and of service in obstructions of the liver, dropsy, debility of the stomach, and dyspnœa.

[f] In *Vet. Acad. Handl.* 1782. *p.* 223.

[g] *Comm. Nor.* 1731. *p.* 5.

considers as the most certain criterion of the genuineness of the oil. From its exorbitant price it is frequently adulterated, and therefore is seldom found in perfect purity in Europe.

Cajeput oil appears to be a powerful medicine, and is much esteemed in Germany, as well as in India, in the character of a general remedy in chronic and painful complaints; it is used for the same purposes for which we employ the officinal æthers, to which it seems to have a considerable affinity; the Cajeput however is more potent and pungent: taken into the stomach, in the dose of five or six drops, it heats and stimulates the whole system, proving at the same time a very certain diaphoretic, by which probably the good effects it is said to have in dropsies and intermittent fevers, are to be explained. For its efficacy in various spasmodic and convulsive affections, it is highly esteemed; and numerous instances of its successful employment are published by different authors.[h] It has been also used both internally and externally with much advantage in several other obstinate disorders, as palsy, hypochondrical and hysterical affections, deafness, defective vision, tooth-ach, gout, rheumatism, menstrual obstructions, herpetic eruptions, &c. of which Thunberg gives a particular relation.[i]

The dose is from two to six and even twelve drops.

The berries and leaves of Myrtus communis, and the bark of Myrtus caryophyllata, or *cassiæ caryophyllatæ cortex*, referable to this order, have also been admitted into the Materia Medica; the former in the character of an aromatic and astringent, and the latter as a substitute for cloves.

[h] These are respectively cited by Murray, to whose work we refer those readers who wish for a fuller account of this article.

[i] *L. c.*

The odour of cajeput oil is remarkably destructive to insects: a few drops, in a cabinet or drawer, wherein animal or vegetable specimens of natural history are kept in a dried state, have on this account been found very useful.

ORD. XXX. SUCCULENTÆ.

(From *Succus*, juice.) Juicy fleshy leaved Plants.

SEDUM ACRE. WALL STONE-CROP, or WALL PEPPER.

SYNONYMA. Sedum acre seu minus. *Pharm. Murray. v. iii. p.* 344. *Bergium.* 375. *Ed. New Dispens.* 281. Sempervivum minus vermiculatum acre. *Bauh. Pin.* 283. Vermicularis seu Illecebra minor acris. *Ger. Emac.* 517. Illecebra minor seu sedum tertium Dioscoridis. *Park. Theat.* 735. *Ray. Synop.* 270. Sedum acre. *Hall. Stirp. Helv. n.* 966. *Hudson. Flor. Ang.* 171. *With. Bot. Arr.* 467. *Ic. Curt. Flor. Lond.*

Decandria Pentagynia. *Lin. Gen. Plant.* 579.

Gen. Ch. Cal. 5-fidus. *Cor.* 5-petala. *Squamae* nectariferæ 5, ad basin germinis. *Caps.* 5.

Sp. Ch. S. fol. subovatis adnato-sessilibus gibbis erectiusculis alternis, cyma trifida.

ROOT perennial, slender, creeping. Stalks several together, about three inches high, covered with leaves. Leaves oval, blunt, short, fleshy, smooth, numerous, without footstalks, closely investing the stalk, placed in an imbricated order. Flowers yellow, in subterminal trifid cymæ. Calyx permanent, divided into five segments, which are tapering, thick, blunt. Corolla composed of five pointed petals, which are more than twice the size of the segments of the calyx. Filaments ten, tapering, about the length

Sedum acre

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of the corolla, and furnished with yellow antheræ. Germen oblong, yellow, terminating in five styles, furnished with simple stigmata. Capsules five, pointed, containing minute oval brownish seeds.

This is a common British plant, growing on houses, walls, and gravelly banks. Like many other plants of this natural order it receives its nourishment principally from the air, in proof of which it continues to grow when detached from the ground, and suspended by the root.

It resembles the Sedum sexangulare very much, so that some botanists have considered the latter as only a variety of the former. The difference however is sufficiently specific both in a botanical and medical sense;[a] the latter being devoid of the pungent biting taste which characterizes the plant here figured.

This species of Sedum, in its recent state, is extremely acrid, like the Hydropiper; hence, if taken in large doses, it acts powerfully on the primæ viæ, proving both emetic and cathartic; applied to the skin, as a cataplasm, it frequently produces vesications and erosions. Boerhaave therefore imagined that its internal employment must be unsafe; but experience has discovered that a decoction of this plant is not only safe, but of great efficacy in scorbutic complaints; for which purpose a handful of the herb is directed by Below[b] to be boiled in eight pints of beer till they are reduced to four, of which three or four ounces are to be taken every, or every other, morning. Milk has been found to answer this purpose better than beer.[c]—Not only ulcers simply scorbutic, but those of a scrophulous and even cancerous tendency, have been cured by the use of this plant, of which Marquet[d] relates

[a] Mr. Curtis has remarked, that "the leaves of S. Acre are short, broad at the base, and at a considerable distance asunder, while those of the Sexangulare are nearly of the same thickness throughout, longer, more numerous, and placed in six rows or angles."

[b] A Swedish Physician. V. *Misc. Nat. Cur. Dec.* 1. *Ann.* 6. *Obs.* 22. *p.* 49.

[c] *Lange. Remed. Bruns. Domest. p.* 121. [d] *Mem. sur L'illecebru. &c.*

several instances. He likewise found it useful as an external application in destroying fungous flesh, and in promoting a discharge in gangrenes and carbuncles.

Another effect for which this plant has been esteemed is that of stopping intermittent fevers.

SAXIFRAGA GRANULATA. WHITE SAXIFRAGE.

SYNONYMA. Saxifraga alba. *Pharm. Dale.* 235. *Lewis.* 590. *Murray. iii.* 355. *Bergius.* 367. Saxifraga rotundifolia alba. *Bauh. Pin.* 309. Saxifraga alba. *Ger. Emac.* 841. Saxifraga alba vulgaris. *Park. Theat.* 424. *Ray. Hist.* 1048. *Synop.* 354. *Haller. Stirp. Helv. n.* 976. S. granulata. *Hudson. Flor. Angl.* 159. *Wither. Bot. Arr.* 434. *Ic. Flor. Dan.* 514. & *Flor. Lond.*

Decandria Digynia. *Lin. Gen. Plant.* 559.

Gen. Ch. *Cal.* 5-partitus. *Cor.* 5-petala. *Caps.* 2-rostris, 1-locularis polysperma.

Sp. Ch. S. foliis caulinis reniformibus lobatis, caule ramoso, radice granulata.

ROOT perennial, consisting of a number of small bulbs adhering to the fibrous part. Stalk somewhat branched, about a foot high, round, hairy towards the bottom, and scantily supplied with leaves. Leaves irregularly kidney-shaped, a little hairy, slightly divided into lobes, concave, those near the root furnished with long hairy footstalks. Calyx divided into five segments, which are hairy, oval, pointed, viscous. Corolla consisting of five white spreading petals, which at the upper extremity are broad, at the base narrow, and of a yellow colour. Filaments ten, tapering, supporting yellow antheræ. Germen roundish, standing below the corolla, and surrounded by a green gland. Styles two, shorter than the

Saxifraga granulata

filaments, furnished with hollow stigmata. Capsule somewhat oval, two-celled, and furnished with two beaks or horns. Seeds numerous, very small, black.

It is a native of England, but not very commonly met with: dry meadows and pastures are the situations it affects. Its flowers appear in April and May.

Linnæus describes the taste of this plant to be acrid and pungent, which we have not been able to discover: neither the tubercles of the root, nor the leaves manifest to the organs of taste any quality likely to be of medicinal use, and therefore though this species of Saxifrage has been long employed as a popular remedy in nephritic and gravelly disorders, yet we do not find either from its sensible qualities, or from any published instances of its efficacy, that it deserves a place in the Materia Medica.

The superstitious doctrine of *Signatures* suggested the use of the root, which is a good example of what Linnæus has termed radix granulata. The bulbs or tubercles of such roots answer an important purpose in vegetation, by supplying the plants with nourishment and moisture, and thereby enabling them to resist the effects of that drought to which the dry soils they inhabit peculiarly expose them.

Sedum Telephium (Orpine) is also admitted of the Materia Medica in the foreign pharmacopœias; it has not the acrid characters of the species here figured, but on the contrary is bland and mucilaginous. It is said to be diuretic, and, according to Dr. Withering, is used with success to cure the piles. Sempervivum tectorum (common House-leek) which is nearly allied to the Telephium in botanical affinity, likewise abounds with a mucilaginous juice, said to be an useful application to burns, creeping ulcers, and in apthous cases. Cactus Opuntia (common Indian Fig) and Portulaca oleracea (Garden Purslane) both of this natural order, afford a similar juice, which also has been applied to medical purposes.

ORD. XXXI. COLUMNIFERÆ.

(From *columna* a pillar, and *fero* to bear.)

Plants whose stamens and pistil have the appearance of a column or pillar in the centre of the flower.

ALTHÆA OFFICINALIS. MARSH-MALLOW.

SYNONYMA. Althæa. *Pharm. Lond. & Edinb.* Althæa Dioscoridis et Plinii. *Bauh. Pin. p.* 315. Althæa vulgaris. *Park. Theat. p.* 303. *Raii Hist.* 602. *Synop.* 252. Althæa Ibiscus. *Gerard. Emac. p.* 933. Althæa sive Bismalva. *J. Bauh. Hist. vol. ii. p.* 945. Althæa tomentosa herbacea, caule erecto, foliis cordato-lanceoiatis obsolete trifidis. *Hal. Stirp. Helv. n.* 1047. Althæa officinalis. *Flor. Dan. tab.* 530. *With. Bot. Arrang. p.* 735. Αλθαια f. Ιβισκος *Dioscorid.*

Class Monadelphia. *Ord.* Polyandria. *Lin. Gen. Plant.* 839.

Ess. Gen. Ch. *Cal.* duplex; exterior 9-fidus. *Arilli* plurimi, monospermi.

Sp. Ch. A. foliis simplicibus tomentosis.

Althaea officinalis

THE root is perennial, long, tough, white, and fibrous: the stalk is upright, firm, woolly, somewhat branched towards the top, and rises to the height of three or four feet: the leaves are ovalish, or heart-shaped, commonly with a lobe on each side, pointed, irregularly serrated, covered with a soft down, and stand upon long round footstalks: the stipulæ are two, narrow, and placed at the base of each leaf-stalk: the flowers are large, and consist of five petals, inversely heart-shaped, indented at the apex, and of a pale purple colour: the calyx is double, the exterior consisting of nine and the interior of five narrow pointed segments: the stamina are numerous, united at the base, and terminated by kidney-shaped antheræ: the germen is orbicular: the styli cylindrical, and furnished with many long bristly stigmata: the seeds are kidney-shaped, numerous, placed in a circle, and covered with an arillus. It is a native of England, and grows commonly near the sea shore, or about salt marshes, and flowers in August.

The Althæa seems to have been known to the ancients,[a] and has continued in very general officinal use by practitioners in every country where the science of medicine is regularly cultivated. "The dry roots of this plant, boiled in water, give out half their weight of a gummy matter,[†] which, on evaporating the aqueous fluid, forms a flavourless yellowish mucilage. The leaves afford scarcely one-fourth of their weight, and the flowers and seeds still less."[b] This gluten or mucilaginous matter with which the

[a] It is called Althæa, says Dioscorides, διὰ το πολυαλθες ἀυτης a multiplici excellentique quam in methodo præstat utilitate. l. 3. c. 163. p. 236. Hence also vismalva & bismalva, malvaviscus, malva-ibiscus, (Alston Lect. on the Mat. Med.) and therefore may be supposed to be the hibiscus of Virgil:—

Hœdorumque gregem viridi compellere hibisco.

Ec. ii. *l.* 30. et Ec. x. *l.* 71.

[†] This is thought to be nearly allied to Gum arabic, Tragacanth, Starch, &c. and it has been found to dissolve myrrh, and some other resinous substances, more readily than the first. Buchholz *Act. Nat. Cur. Tom. p.* 60. Expt. 32.

[b] Lewis *Mat. Med. p.* 40.

Althæa abounds, is the medicinal part of the plant, and is commonly employed for its emollient and demulcent qualities. Its use is recommended where the natural mucus of membranes becomes acrid or abraded; "for obtunding and incrassating acrimonious thin fluids, in tickling coughs from defluctions on the fauces and lungs, in hoarseness, erosions of the stomach and intestines, stranguary,‡ and for lubricating and relaxing the passages in nephritic and calculous complaints."[c] Radix Althææ formerly had a place in many of the compounds in the pharmacopœias, but now it is only directed in the form of a syrup.

‡ We may here remark however, that in the opinion of Dr. Cullen these "demulcents can have no effect as such in the mass of blood, or in passing by the various excretions." *Mat. Med. vol. ii. p.* 411.

[c] Lewis l. c.

MALVA SYLVESTRIS. COMMON MALLOW.

SYNONYMA. Malva. *Pharm. Lond. & Edinb.* Malva sylvestris folio sinuato. *Bauh, Pin. p.* 314. Malva vulgaris flore majore, folio sinuato. *J. Bauh. Hist. vol. ii. p.* 949. Malva vulgaris. *Park. Theat. p.* 299. *Raii Hist. p.* 599. *Synop. p.* 251. Malva caule erecto, foliis lobatis, lobis serratis, quinis & septenis. *Hal. Stirp. Helv. n.* 1069. Malva sylvestris. *Gerard. Emac.* 930. *Withering. Bot. Arrang. p.* 738. *Curt. Flor. Lond.*

Class Monadelphia. *Ord.* Polyandria. *Lin. Gen. Plant.* 841.

Ess. Gen. Ch. *Cal.* duplex; exterior 3-phyllis. *Arilli* plurimi, monospermi.

Malva sylvestris

Published by W. Wallis, 22nd Oct. 1805

Sp. Ch. M. caule erecto herbaceo, fol. septemlobatis acutis, pedunculis petiolisque pilosis.

THE root is perennial, thick, long, whitish, and furnished with many strong fibres: the stem is erect, round, strong, hairy, branched, and rises from one to three feet in height: the leaves are numerous, roundish, divided into five or seven lobes, unequally serrated or notched at the edges, and stand upon long round hairy footstalks: the two stipulæ are placed at the base of each footstalk: the flowers are large, consisting of five petals, which are inversely heart-shaped, sinuated at the apex, and of a purple colour, painted with veins of a deeper hue, and stand upon slender peduncles, which proceed from the bottom of the leaf-stalks: the calyx is double, the outer is composed of three, and the inner of five oval pointed hairy segments: the stamina are numerous, united at the base in a cylindrical shape, above separate, bending downwards, and furnished with kidney-shaped antheræ: the germen is roundish: the style cylindrical, short, and furnished with many filiform stigmata: the seeds are numerous, of a kidney-shape, and covered with a coat, or arillus, which opens inwardly. It is common under hedges and in waste grounds, and flowers from June till September.

This plant [a] has a strong affinity to the Althæa both in a botanical and in a medicinal respect; but the roots of the malva are useless, while those of althæa are of more efficacy than any other part of the plant. Accordingly we find that only the leaves and the flowers of the former are directed by the college for pharmaceutical purposes. Formerly when horticulture was little understood, and of course the choice of esculent vegetables extremely limited, the malva was admitted amongst the more common articles of

[a] "Malva quasi molva quod alvum molliat, ut inquit Festus, secundum tritum illum Scholæ Salern. versiculum, dixerunt malvam veteres quia molliat alvum. Gr. μαλαχη, απο μαλασσειν, ob eandem rationem. Utrumque etymon improbat C. Hoffman nec tamen meliora substituit." *Tournf.*

diet;[b] and we are told that the Chinese still eat the leaves of mallow either raw as sallad, or boiled as spinage.[c]

Respecting the medicinal qualities of this plant, little remains to be said after the account we have given of Althæa, as the leaves afford a similar glutinous juice, which is fitted to answer the same purposes as those of marsh-mallow, and are therefore principally used in fomentations, cataplasms, and emollient enemas; but the internal use of these leaves seems to be wholly superseded by the radix althææ.[d]

[b] ——— Me pascunt olivæ
Me cichorea levesque malvæ. *Hor. l.* 1. *Od.* 31.

Exoneraturas ventrem mihi villica malvas
Attulit, & varias, quas habet hortus, opes. *Martial.*

The laxative quality of this plant is also mentioned by Cicero.
Epistol. lib. 7. *epist.* 26.

[c] *Melanges interessans et curieux. Tom.* 4. *p.* 28.

[d] "Althæa in omnibus supra dictis efficacior radix." Plin. Nat. Hist. vol. 2. p. 662.

Guaiacum officinale.

Published by W. Phillips. April 1st 1809.

ORD. XXXII. GRUINALES.

(From *Grus*, a Crane,)

Where the central part of the flower resembles a crane's bill after the petals have fallen off, as in the geranium, and some other genera where this appearance is not so evident.

GUAIACUM OFFICINALE. OFFICINAL GUAIACUM.

SYNONYMA. Guaiacum. Pharm. Lond. & Edinb. Miller's Dict. Guaiacum, foliis fere impetiolatis, bijugatis, obovatis & leniter radiatis; pinnis & ramulis dichotomis. *Browne's Jamaica,* 225. Lignum Vitæ, or Guaiacum. *Hughe's Barbadoes,* 142. Guaiacum Americanum primum, fructu aceris, sive legitimum. *Breyn. Prodr.* i. 31. Pruno vel Euonymo affinis arbor, folio alato, buxeo, subrotundo, flore pentapetalo cæruleo racemoso, fructu aceris cordato, cujus cortex luteus corrugatus, semen unicum majusculum nigricans nullo ossiculo tectum operit. *Sloane's Jam.* vol. ii. 133. & *Cat. P. Jam.* 186. Guaiacum flore cæruleo, fructo subrotundo. *Plum. Nov. Gen.* 39. Guaiacum, magna matrice. *Bauh. Pin.* 448. Lignum sanctum, Lignum Indicum, et Palus sanctus, *Quorundam.*

Class Decandria. *Order* Monogynia. *L. Gen. Plant.* 518.

Ess. Gen. Ch. Cal. 5-fidus inæqualis. *Petala* 5, calyci inserta.
Caps. angulata 3 s 5-locularis.

Sp. Ch. G. foliolis bijugis obtusis.

THE Guaiacum tree grows to the height of forty feet, and to the circumference of four or five, sending forth several large dividing and subdividing knotted branches: the bark of the trunk is of a dark grey colour, variegated with greenish or purplish specks, but of the branches it is uniformly ash-coloured, striated, and marked with fissures; " the roots are very thick in proportion to the size of the tree, and run a great way into the ground, in a perpendicular direction:" the leaves are pinnated, consisting of two, three, and sometimes four pair of pinnæ, with very short footstalks, smooth, shining, veined, of an inversely oval shape, and dark green colour: the flowers grow in clusters, or umbels, upon long peduncles, which spring from the divisions of the smaller branches: the calyx is of five leaves; these are concave, oblong, obtuse, patent, unequal, and deciduous; the petals are five, elliptical, concave, spreading, and of a rich blue colour; the stamina are erect, villous, taper from the base, and are crowned with yellowish hooked antheræ; the germen is oval, angular, and in its capsular state assumes the figure we have separately described; the style is short and tapering; the stigma is simple, and pointed; the seeds are solitary, hard, and of an oblong shape.

Linnæus makes three species of the Guaiacum, viz. the officinale, sanctum, and afrum; the specific difference between the two former he fixes wholly on the number of the pinnæ of the leaves, defining the first foliolîs bijugîs, and the second foliolîs multijugîs; but the leaves, according to the plant we have figured, commonly consist of three, and sometimes four pair of pinnæ,[a] so that this specific description is by no means distinctly characteristic. In a medical sense, the sanctum has been generally considered synony-

[a] There can be no doubt of our plant being the true officinale, we had it with several others from Mr. Aiton, whose extensive botanical knowledge is above our praise, and only to be equalled by that liberality of mind with which he communicates it. The testimony of Sir Hans Sloane is in opposition to Linnæus, for he observes that the leaves have sometimes four pair of pinnæ.

mously with the officinale, and from the investigation we have given this subject, we believe it founded in botanical truth.[b]

This tree is a native of the West India Islands, and the warmer parts of America, and appears from the MS. of Sir Hans Sloane, in the British Museum, to have been first cultivated in this country by the Duchess of Beaufort in 1699.[c] The wood, gum, bark, fruit, and even the flowers of this tree, have been found to possess medicinal qualities.[d] The *Wood* is brought here principally from Jamaica in large pieces of four or five cwt. each, and, from its hardness and beauty, is in great demand for various articles of turnery ware.—It is extremely compact, and so heavy as to sink in water: the outer part is of a pale yellowish colour, the heart of a dark blackish brown, with a greater or less admixture of green. It scarcely discovers any smell, unless heated, or while rasping, in which circumstances it yields a light aromatic one: chewed, it impresses a slight acrimony, biting the palate and fauces. Its pungency resides in a resinous matter, which is totally extracted by digestion in rectified spirit, and partially by boiling water. The quantity of solid extract, obtained by rectified spirit, amounts to about one-fourth of the weight of the wood; with water, scarcely one-sixth is obtained.[e] The *Gum,* or rather gummy resin, is obtained by wounding the bark in different parts of the body of the tree, or by what has been called jagging. It exudes copiously from the wounds, though gradually; and when a quantity is found accumulated upon the several wounded trees, hardened

[b] Monardus divides the wood into three sorts, and C. Bauhin adopts two of these by the distinctions of Guaiacum magna matrice, and the Guaiacum propemodum sine matrice: these circumstances, however, depend upon the age, size, &c. of the tree. The icons of these species, given by Blackwell and Regnault, cannot, we presume, be considered as decisive.

[c] Vide Aiton's Hort. Kew.

[d] Long's History of Jamaica, vol. 3. p. 725.

[e] Lewis's M. M. 330.

by exposure to the sun, it is gathered and packed in small kegs for exportation. This resin is of a friable texture, of a deep greenish colour, and sometimes of a reddish hue; it has a pungent acrid taste, but little or no smell, unless heated. It contains more resin than the watery extract made from the wood; and more gummy matter than the spirituous extract.[f]—The Guaiacum tree also yields a spontaneous exudation from the bark, which is called the native gum, and is brought to us in small irregular pieces, ‖ of a bright semipellucid appearance, and differs from the former in being much purer.[g] The *Bark* contains less resinous matter than the wood, and is consequently a less powerful medicine, though in a recent state it is strongly cathartic. The *Fruit,* (says a late author) " is purgative; and for medicinal use, far excels the bark. A decoction of it has been known to cure the venereal disease, and even the yaws in its advanced stage, without the use of mercury." The *Flowers,* or blossoms, are laxative, and in Jamaica are commonly given to children in the form of syrup, which in appearance much resembles that of violets. It is only the wood and resin of Guaiacum which are now in general medical use in Europe; and as the efficacy of the former is supposed to be derived merely from the quantity of resinous matter which it contains, they may be considered indiscriminately as the same medicine. Guaiacum

[f] Des Marchais, Voyage en Guinée & Cayenne, tom. 3. p. 246. " The Gum, or rather the resin of this plant, transudes frequently of its own accord, and may be seen concreted on many parts of it at all seasons of the year; but it is generally found in greater abundance where the bark has been cut or wounded." Browne's Jam. 226.

‖ It is sometimes sophisticated by the negroes with the gum of the Manchineal tree, (a species of the Hippomane) but this is easily detected by dissolving a little in spirit of wine or rum. The true gum imparts a whitish or milky tinge; but the Manchineal gives a greenish cast. Long, l. c. 724. Möuch advises a few drops of Spirit. nitri dulc. to be added to the spirituous solution, and then to be diluted with water, by which the gum is precipitated in a blue powder; but the adulteration will appear floating in white striæ, &c. Vide Crell's Chem. Journ. P. 2. p. 78.

[g] Long, l. c.

was first introduced in the Materia Medica soon after the discovery of America,[h] and previous to the proper use of mercury in the lues venerea, it was the principal remedy employed for the cure of that disease, and its great success brought it into such repute, that it is said to have been sold for seven gold crowns a pound;[i] but notwithstanding the very numerous testimonies in its favour ‡, it often failed in curing the patient, and was at length entirely superseded by mercury; and though it be still occasionally employed in syphilis, yet it is rather with a view to correct other vitia in the habit, than for its effects as an antivenereal.*

The general virtues of Guaiacum are stated by Bergius to be mundificans, sudorifera, diuretica, subcalefaciens, stomachica, and its use to be in syphilis, arthritis,† morbi cutis, odontalgia;[k] and

[h] Initium celebritatis dedit felix curatio, quam in insula St. Dominici Hispanus quidam superioris ordinis, qui morbum ab India muliere contraxerat, jam doloribus diris detentus, suadente famulo suo Indo, ex hoc ligno in semet experiebatur. Ejus exemplo præeunte, plures alii Hispani eodem modo contaminati ad idem auxilium fausto successu confugerunt. Quod quum post reditum Hispali ab hisce evulgaretur, hinc per totam Hispaniam, & inde per totum reliquum orbem, quem lues occupaverat, fama remedii increbuit. Monardes Simpl. Med. p. 341. Vide Murray's Ap. Med. vol. 3. 409. And according to Delgado, Guaiacum was used in Spain so early as 1508. (del modo de adoperare el Legno santo. Venet. 1529.)

[i] Vide Friend's Hist. vol. 2. p. 365. And Massa de Morb. gal. 71. says, Ligni libra una scutatis aureis undecim veniret.

‡ Vide Böhm Diss. variæ siphilidis therapiæ.

* Perhaps the opinions and facts adduced by Boerhaave, Astruc, Plenk, De Haen, Hutten, and lately by Mr. Hunter, may be considered in some measure as exceptions.—The last of these authors remarks, that the Guaiacum was first used in Europe as a remedy for the Syphilis in 1517; but from the authority we have cited above, it appears to have been employed nine years sooner.

† Though upon the authority of Mead, Pringle, and others, Guaiacum has been much employed in rheumatisms, yet it was of little estimation in the gout till Mr. Emerigon of Martinico, published his letters about thirteen years ago, (Specifique contre la goutte, &c.)

[k] Mat. Med. 346.

to these we may add chronic rheumatism, scrophula, and some schirrous diseases.—To Dr. Cullen Guaiacum seems analogous to the nature of the balsams and turpentines, he therefore supposes it like these to be very diffusible in the system, and thereby to have a considerable power in stimulating the extreme vessels every where; and in this way he accounts for its power in chronic rheumatism, and from its passing off by the pores of the skin, he considers it a probable remedy in some cutaneous disorders.[l]

This opinion corresponds with Murray's, who says, —— Et hisce partibus resinosis quidem Guaiacum per minimos corporis nostri canales efficaciter penetrat, impacta resolvit & discutit, balsamicam virtutem exercet et sudorem potenter pellit, item evacuationes per alvum vel lotium, vel aliquando salivæ profluvium, ciet.[m] According to Lewis, where the excretory glands are obstructed, the vessels lax and flaccid, and the habit replete with serous humours, it has good effects: but in thin emaciated habits, and an acrimonious state of the fluids, it often does harm.[n]—We have frequently conjoined it with mercury and soap, and in some cases with bark or steel, and found it eminently useful as an alterative. In the pharmacopœias it is directed in the form of tincture and elixir; the latter is ordered by the Edinburgh college to be prepared two ways, viz. with rectified spirit, and the vinous spirit of sal ammoniac.[o] Of these compounds the dose may be from two

[l] Mat. Med. vol. 2. 197.

[m] Murray's Ap. Med. vol. 3. 408. [n] l. c. 331.

[o] Dr. Cullen observes, that "several physicians have apprehended mischief from the use of the Guaiacum in a spirituous tincture, and I am certain that it sometimes happens. It is therefore that in imitation of the very respectable Berger of Copenhagen I avoid the spirituous tincture of Guaiacum, and employ almost only the diffusion of it in water. In preparing this, having first with an equal part of hard sugar reduced the Guaiacum to a fine powder, I apply some portion of the yolk of an egg, or of a mucilage of gum arabic, and rubbing these together very carefully, I form an emulsion with water, or watery liquors, as may be thought proper. This preparation I give over night in such a quantity as

Oxalis *Acetosella*

scruples to two drams: the powder is generally given from 6 grains to 20, or even more, for a dose, either by itself, or in a fluid form, by means of mucilage or the yolk of egg. The Decoctum lignorum, (Pharm. Ed.) of which Guaiacum is the chief ingredient, is commonly taken in the quantity of a pint a day.

may open the belly once next day, which will happen to different persons from doses containing 15 to 30 grains of the Guaiacum." M. M. 199. Berger's formula is the following: ℞ G. guaiaci ℥fs G. arabici ℥ij. Bene trita solv. in aquæ hyssopi vel alius distill ℥ix. Add. sacchari ℥fs m. d. s. solutio, cujus duo cochlearia majora mane & vesperi capiantur, superbibito libra una decocti hordei vel avenæ. Vet. Acad. Handl. vol. 1. p. 74. Theden recommends the Guaiacum made into pills with soap of almonds, which is still more convenient (*neue Bemerk. u Ersahr, a. d. Wundarzneyk. und Arz.* P. 2. 204.)

OXALIS ACETOSELLA. WOOD-SORREL.

SYNONYMA. Lujula. Pharm. Lond. Oxalis Acetosella, scapis unifloris, fol. ternatis: foliolis obcordatis pilosis. *Thunb. Diss. de Oxal.* n. 5. *Curtis Flor. Lond. Withering's Bot. Arrang. p.* 470. *Relhan's Flor. Cant.* p. 176. Oxys scapo unifloro, foliis ternatis, radice squamoso-articulata. *Hal. Stirp. Helv.* n. 928. Oxys sive Trifolium acidum, flore albo & purpurascente. *J. Bauh.* II. 387. Trifolium acetosum vulgare. *Bauh. Pin.* 330. *Parkinson & Theat.* 746. Oxys Alba. *Gerard. Herb.* 1201. *Raii Synop.* p. 281. *Wood-Sorrel. Hist. Plant.* 1098. *Acetosella, et Alleluja, Quorundam.*

Class. Decandria. *Ord.* Pentagynia. *L. Gen. Plant.* 582.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* unguibus connexa. *Caps.* angulis dehiscens, 5-gona.

Sp. Ch. O. scapo unifloro, foliis ternatis obcordatis, radice dentata, *L. Syst. ed.* 13.

THIS delicate little plant is excellently described by Mr. Curtis, (Flor. Lond.) we shall therefore adopt his description, as far as it coincides with our plan. The root is perennial, horizontal, scaly, and of a bright red colour; the leaves grow three together, inversely heart-shaped, of a yellowish green colour, frequently purple underneath, and beset with a few hairs; the leaf stalks are about three inches long, nearly upright, tender, proceeding from little bulbs, which form a kind of sheath, at the bottom these stalks are red and round, but towards the top grooved on one side: the flowers are white or flesh-coloured, and elegantly streaked with red veins. The flower-stalk is somewhat longer than the leaf-stalk, and furnished near the top with two oval pointed bracteæ, which partly surround it; the calyx is divided into five segments; these are short, permanent, bluntish, membraneous at the edges, and often spotted with purple; the petals are five, affixed to the receptacle by the claws, which bend a little inward just above where the claws adhere together, they are blunt, slightly crenated, and tinged at the bottom with yellow; the stamina are ten, upright, white, the five exterior the shortest; the antheræ are yellow and bilocular; the germen is quadrangular and green; the styles are five, very slender, a little longer than the stamina, and the stigma is blunt; the capsule is ovalish, pentagonal, spotted, divided into five cavities, each containing three seeds, which are heart-shaped, longitudinally grooved, convex on both sides, of a bright reddish brown colour, and inclosed within a shining white elastic arillus, by the bursting of which the seeds are thrown out.‡ This plant is a native of England, it flowers about April and May, and is commonly found in woods, or in shaded situations.[a]

The Acetosella is totally inodorous, but has a grateful acid taste,[b]

‡ As a distinguishing part of the generic character, Ray says, "Quod per maturitatem levi tactu dissiliens cum impetu semina ejaculantur, (hist. 1098.)

[a] Mr. Curtis observes, that this plant continues to produce seeds during the greatest part of the summer, without any appearance of expanded blossoms.

[b] This makes it useful in sallads, in some measure supplying the place of vinegar.

which is more agreeable than the common sorrel, (Rumex Acetosa) and approaches nearly to that of the juice of lemons, or the acid of tartar, with which it also corresponds in a great measure in its medical effects, being esteemed refrigerant, antiscorbutic, and diuretic. It is recommended by Bergius in inflammatory, bilious, and putrid fevers, and from the cases adduced by Francus,[c] he concludes, "Acetossellam appetitum restaurare, vomitum consopire, alvum stringere, sitim, sedare, oris amaritiem tollere, cordis vires reparare, anginamque abigere."[d] The principal use, however, of the Acetosella, is to allay inordinate heat, and to quench thirst; for this purpose, a pleasant whey may be formed by boiling the plant in milk, which under certain circumstances may be preferable to the conserve directed by the London College, though an extremely grateful and useful medicine. Many have employed the root of Lujula, probably on account of its beautiful red colour rather than for its superior efficacy. An essential salt is prepared from this plant, known by the name of Essential Salt of Lemons, and commonly used for taking ink-stains out of linen.[e]

[c] De vera herba Antiquorum Acetosella, &c.

[d] Mat. Med. p. 379.

[e] This salt is made from the expressed juice. Vide Boerh. Chem. vol. 2. proc. 7. & Savary, Diss. de Sale Essent. Acetosellæ. p. 9. Thunberg found that the Oxalis cernua of the Cape of Good Hope, yields the salt in greater quantity than the Acetosella.—This salt, when genuine, which is seldom to be procured so,‖ is composed of the vegetable alkali and a peculiar acid, which seems more allied to the acid of sugar than that of tartar. Vide Bergman Act. Up. Nov. vol. 2. p. 215. where the manner of separating this acid is also given, and related by Murray. Ap. Med. vol. 3. p. 497.

‖ Vide Scheele in Görwells *nya tidningar*, 1775. n. 30. p. 237. and Savary, l. c. What is sold under the name of *Essential Salt of Lemons*, in this country, appears sometimes to consist of C. Tart. with the addition of a small quantity of vitriolic acid. MS. Lectures on Chemistry by Dr. Hamilton.

LINUM USITATISSIMUM. COMMON FLAX.

SYNONYMA. Linum. *Pharm. Lond. & Edinb.* Linum arvense. *Bauh. Pin.* p. 214. Linum sativum. *Gerard, Emac.* p. 556. *Park. Theat.* p. 1335. *Raii Hist.* p. 1072. *Synop.* p. 362. Linum. *J. Bauh. Hist. iii.* p. 451. *Hall. Stirp. Helv. n.* 836. L. usitatissimum. *Huds. Flor. Ang.* p. 133. *Withering. Bot. Arrang.* p. 328. *Curt. Flor. Lond.* Λινον *Dioscor. L.* 2. *c.* 125. *Theoph.* 8. *Hist.* 7.

Class Pentandria. *Ord.* Pentagynia. *Lin. Gen. Plant.* 389.

Ess. Gen. Ch. *Cal.* 5-phyllus. *Petala* 5. *Caps.* 5-valvis, 10-loculares. *Sem.* solitaria.

Sp. Ch. L. calycibus capsulisque mucronatis, petalis crenatis, foliis lanceolatis alternis, caule subsolitario.

THE root is annual: the stalk is erect, round, smooth, branched towards the top, and rises about a foot and a half in height:[a] the branches are simple, alternate, and terminated by the flowers, which are solitary, and of a sky-blue colour: the leaves are lance-shaped, acute, sessile, smooth, glaucous, vertical, and alternately scattered over the stalk and branches: the calyx is divided into five segments, which are semi-lance-shaped, pointed, and slightly fringed with small hairs: the corolla is funnel-shaped, consisting of five petals, which are large, obovate, striated, and minutely scolloped at their extremities: the filaments are five, tapering, upright, about the length of the calyx, united at the base, and crowned with simple antheræ: the germen is oval: the five styles are filiform, erect, of the length of the filaments, and furnished with blunt stigmata:

[a] It is remarked by Haselquist, that in Egypt this plant rises with a strong stem to the height of four feet. *Resa til hel. Landet. p.* 462.

Linum usitatissimum.

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the capsule is globular, divided into five valves, and ten cells: the seeds are solitary, glossy, and of a flattish oval shape, It is a native of Britain, and grows in corn fields and sandy pastures: the flowers appear in July.

Flax [b] is an article of such an extensive utility for various œconomical purposes, that the plant which furnishes it has obtained the trivial name of usitatissimum; and when it is considered that its seeds afford an oil equally useful in arts and in medicine, it may well be deemed an object of national importance. Sensible of this, the Society for the Encouragement of Arts, Manufactures, and Commerce, has laudably endeavoured to promote and extend the cultivation of this plant in Britain, and not without success. But still the greatest part of Flax and Linseed used in this country is the growth of the northern parts of Europe, where it is cultivated most abundantly.

" The seeds have an unctuous mucilaginous sweetish taste, but no remarkable smell; on expression, they yield a large quantity of oil, which, when carefully drawn without the application of heat, has no particular taste or flavour: in some properties it differs considerably from most of the other oils of this kind; not congealing in winter; not forming a solid soap with fixed alkaline salts;* acting more powerfully as a menstruum on sulphureous bodies, than any other expressed oil that has been tried. The seeds, boiled in water, yield a large proportion of a strong flavourless mucilage: to rectified spirit they give out little or nothing."[c]

[b] The bark of the plant is composed of numerous small tough longitudinal fibres, connected together with a glutinous matter which is dissolved by maceration in water, leaving the naked fibres, which are then to be dried and beaten, by which means the inner membranous parts are easily separated; after this it is combed, and fit to be spun into thread.—It has been observed that the water in which this bark has been macerated, becomes poisonous to cattle, and on this account the practice of steeping it in any running stream or common pond, was prohibited by Statute 33d Henry VIII. cap. 17.

* Geoffroy, *Mem. de l'acad. des scien. de Paris l'ann.* 1741.

[c] Lewis, *M. M. p.* 397.

Linseed appears to afford but little nourishment, and when taken as food has been found to impair the stomach, and produce great flatulency: effects, which are noticed of these seeds by Galen,[d] and since amply confirmed by Tragus, who relates [e] that, in consequence of a scarcity of corn in Zealand, the inhabitants were urged to the necessity of eating boiled Linseed, which occasioned a remarkable distention of the hypochondria, swellings of the face and other parts, which in several instances proved fatal.

Infusions and decoctions of these seeds, like other vegetable mucilages, are used as emollients or demulcents in hoarsenesses, coughs, and pleuretic symptoms, which frequently prevail in catarrhal affections; they are also recommended in nephritic pains and stranguries: for these purposes, a spoonful of the seeds unbruised is said to be sufficient for a quart of water.[f] The seeds are also much used externally in emollient and maturating cataplasms. The expressed oil is an officinal preparation, and is supposed to be of a more healing and balsamic nature than the other oils of this class;[g] it has therefore been very generally employed in pulmonary complaints; also in colics,[h] and constipations of the bowels.[i]

[d] Simp. L. 7. de alim. fac. l. 1. c. 32.

[e] See Raii *Hist. p.* 1073.

[f] *Lewis, l. c.*

[g] This subject is examined on treating of Olea europæa. p. 280.

[h] See Sydenham, (*Oper. cap. de pleur. p.* 265.) Haen, (*Rat. Med. P.* 1. *p.* 24. *P. ii. p.* 103.) and others.

[i] Haen, *l. c. P. ii. p.* 204. V. Swieten. *Com. vol. ii. p.* 143. Gallesky mentions several cases of constipation and colic, proceeding from different causes, successfully treated by this oil. See Abhandl. v. Miserere u. d. Kräften d. Leinöls in dies. Krankh. p. 75. seq. Also Leutin, Beob. einig. Krankh. p. 149. Vide Murray, App. Med. vol. iii. p. 485. seq.—It is used in common with other oils as a vermifuge.

Quassia Simaruba

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QUASSIA SIMARUBA. SIMARUBA QUASSIA.*

SYNONYMA. Simarouba. *Pharm. Lond. & Edinb.* Simaruba amara. *Aublet Hist. des Plantes de la Guiane Françoise. tom. ii. p.* 859. *tab.* 331, 332. Euonymus fructu nigro tetragono, vulgo Simarouba. *Barrere France equinoxiale. p.* 50. Le Simarouba vel Bois amer. *Des Marchais Voyages en Guinée et à Cayenne. vol. ii. p.* 124. *Bancroft's Nat. Hist. of Guiana, p.* 84. A Botanical and Medical account of the Quassia Simaruba. *Wright* in the *Transactions of the Royal Society of Edinb. vol. ii. p.* 73. *& seq.*

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 529.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* 5. *Nectarium* 5-phyllum. *Pericarpia* 5, distantia, 1-sperma.

Sp. Ch. Q. floribus monoicis, foliis abrupte pinnatis: foliolis alternis subpetiolatis, petiolo nudo, floribus paniculatis. *Supp. Plant.*

THIS tree grows to a considerable height and thickness, and sends off alternate spreading branches: the bark which covers the trunks of the old trees, is black, and a little furrowed, but that of the younger trees is smooth, grey, and here and there marked with broad spots of a yellow colour: the wood is hard, white, and without any remarkable taste: the leaves are numerous, and stand alternately upon the branches; each leaf is composed of several pinnæ, nearly of an elliptical shape, on the upper side smooth, and of a deep green colour, on the under side whitish, and stand alternately upon short footstalks: the flowers are of a yellow colour, and placed on branched spikes, or long panicles: the

* "This tree is known in Jamaica by the names of Mountain Damson, Bitter Damson, and Stave-wood. The shops are supplied with this bark from Guiana; but now we may have it from our own islands at a moderate expense." Wright. l. c.

calyx is small, and cut into five obtuse erect segments: the corolla is divided into five petals, which are sessile, equal, lance-shaped, bent outwards, and tripple the length of the calyx, into which they are inserted: the nectarium is composed of ten oval hairy scales, inserted at the base of the filaments: the stamina are ten, slender, equal, about the length of the corolla, and furnished with long antheræ: the receptacle is a fleshy substance, of an orbicular shape, and marked with ten furrows. The female flower (according to Dr. Wright, whose figure of the male plant we have given) is never found at Jamaica on the same tree which produces the male flower; it is furnished with five roundish germina adhering together: the style is cylindrical, erect, about the length of the corolla, and divided at the top into five recurved persistent stigmata: the fruit is an oval, black, smooth, fleshy, soft pulp, or drupa; the number of these drupæ is five on each common receptacle, but seldom more than two or three arrive at perfect maturity, when each contains an oblong pointed nut with a flattish kernel. It is a native of South America and the West Indies, and flowers in April.

Although the medicinal bark, which the roots of this tree are known to furnish, was first imported into Europe in the year 1713, it is but a few years since the Simaruba was botanically ascertained.

Linnæus at first supposed it to be the Pistacia foliis pinnatis deciduis, foliolis ovatis; but in the second edition of his Species plantarum and Mat. Med. it is recorded as the Bursera gummifera, and both these genera are referred to the Terebinthus major of Sloane, or the Birch turpentine-tree of Browne. However Jacquin, who examined the root of the Bursura, and compared its bark with that of Simaruba, found it to be very different. Linnæus therefore in his observations on the Mat. Med. published in 1772, very properly mentions it among those plants which are not sufficiently determined. About this time the Simaruba tree was discovered and investigated at Guiana by Aublet, and at Jamaica by Dr. Wright, from whose specimens it evidently appears to be a Quassia, and

under this name it has since been described by the younger Linnæus in the Supp. Plantarum. Dr. Wright, to whose botanical researches we are much indebted, says, "in 1773, specimens of the fructification were sent (from Jamaica) in spirits, accompanied with a botanical account of the tree, to my late worthy friend Dr. Hope, Professor of Botany in the University of Edinburgh; also some dried bark from the roots. The following year, specimens, with similar description, were transmitted to my late learned friend Dr. John Fothergill, of London, who sent them to the celebrated Linnæus at Upsal, as appears by Professor Murray's Apparatus Medicaminum.[a] Dr. Fothergill caused elegant drawings to be made of this plant, and these drawings I now have the honour of presenting to the Royal Society of Edinburgh."[b] By the assistance of Mr. Alexander Anderson a plant of this species has been lately introduced into the Royal garden at Kew.[c] The cortex Simarubæ of the shops is the bark of the roots of this tree, which, according to Dr. Wright, "is rough, scaly, and warted. The inside, when fresh, is a full yellow, but when dry, paler: it has but little smell: the taste is bitter, but not disagreeable." "Macerated in water, or in rectified spirit, it quickly impregnates both menstrua with its bitterness, and with a yellow tincture. It seems to give out its virtue more perfectly to cold, than to boiling, water; the cold infusion being rather stronger in taste than the decoction; which last, of a transparent yellow colour whilst hot, grows turbid and of a reddish brown, as it cools. The milky appearance, which Jussieu

[a] Qualis vera ejusdem arbor sit, jamjam *Aubletii* indagine cognoscimus; ut tamen et mihi monere incumbat, b. *Linneum*, Equitem, litteris jam a. 1776. ineunte mihi datis, antequam *Aubletii* elegantissimum opus illi innotesceret, significasse, Simarubum Quassiæ speciem a se haberi. Ille autem Simarubæ cortex, quo cl. *Wright* (Conf. *Bibl. mea med. v. iii. p.* 483) arborem in Jamaica vulgarem vestitam esse innuit, pariter in alvi profluviis efficaci, *discrepat a vulgo usitato cortice, ut specimine mihi misso reperio, quod scilicet tenue est, tenacius, longe pallidius, obtectum extrinsecus verrucis exiguis fere stipitatis, valde amarum.*" Vol. iii. p. 458.

[b] L. c. p. 74. [c] See Aiton's *Hort. Kew.*

says it communicates to boiling water, I have not observed in the decoction of any of the specimens which I have examined."[d]

The bark was first sent from Guiana to France in 1713 to the Count de Porchartrain, then Secretary of State, as a remedy of great efficacy in dysentery. In the years 1718 and 1723 an epidemic flux prevailed very generally in France, which resisted all the medicines usually employed in such cases; small doses of ipecacuanha, mild purgatives, and all astringents were found to aggravate, rather than to relieve, the disease: || under these circumstances, recourse was had to the cortex Simarubæ, which proved remarkably successful, and first established its medical character in Europe.‡ Dr. Wright says, " most authors who have written on " the Simaruba, agree, that in fluxes it restores the lost tone of " the intestines, allays their spasmodic motions, promotes the " secretions by urine and perspiration, removes that lowness of " spirits attending dysenteries, and disposes the patient to sleep; " the gripes and tenesmus are taken off, and the stools are changed " to their natural colour and consistence. In a moderate dose it " occasions no disturbance or uneasiness, but in large doses it pro- " duces sickness at the stomach and vomiting.

" Modern physicians have found from experience that this " medicine is only successful in the third stage of dysentery, " where there is no fever, where too the stomach is no way hurt, " and where the gripes and tenesmus are only continued by a

[d] Lewis *Mat. Med. p.* 606. || See Wright, l. c.

‡ Jesuitæ patri *Soleil* collegio Parisino adscripto anno 1713, quædam hujus corticis specimina miserunt, ille in dysenteria gravi, quæ anno 1718, Parisiis furebat, jussu Regio, fuit tentatus, bonos inde observatos effectus, anno 1723, reiterata experimenta uberius confirmarunt, variis itaque in locis in usum tractus efficaciam suam in sistenda dysenteria ubivis probavit Degner, Schwenk, Tissot, Grashuis, Bœnnicken, Werlhoff, testibus, efficacem quoque in alvi fluxu chronico & lienteria Schwenk, Tissot, Bœnnicken Jussieu sunt experti, in hæmorrhagia uteri Du Buisson & Jussieu: has ejus virtutes non modo a vi adstringente, qua pollet, pendere, sed illam ipsam materiem quoque horum morborum corrigere & e corpore educere, Schwenk & Jussieu ex eo probant, quod sub ejus usu excretiones aquosæ promoveri observentur. Spielman *Mat. Med. p.* 228.

" weakness of the bowels. In such cases, Dr. Monro gave two " or three ounces of the decoction every five or six hours, with " four or five drops of laudanum; and found it a very useful " remedy. The late Sir John Pringle, Dr. Huck Saunders, and " many others, prescribed the cortex Simaruba in old and obsti- " nate dysenteries and diarrhœas, especially those brought from " warm climates. Fluxes of this sort, which were brought home " from the siege of Martinico and the Havannah, were completely " and speedily cured by this bark. The urine, which in those " cases had been high coloured and scanty, was now voided in " great abundance, and perspiration restored. Dr. James Lind, " at Haslar Hospital, says, that the Simaruba produced these effects " sooner and more certainly, when given in such quantity as to " nauseate the stomach. Dr. Huck Saunders remarks, that if the " Simaruba did not give relief in three days, he expected little " benefit from its farther use; but others have found it efficacious " in fluxes, after a continued use for several weeks.——" My own " experience, and that of many living friends, are convincing " proofs to me of the efficacy of this medicine, and I hope the " Simaruba bark will soon be in more general use." [e]

Dr. Wright recommends two drams of the bark to be boiled in twenty-four ounces of water to twelve; the decoction is then to be strained and divided into three equal parts, the whole of which is to be taken in twenty-four hours, and when the stomach is reconciled to this medicine, the quantity of the bark may be increased to three drams. To this decoction some join aromatics, others a few drops of laudanum to each dose.

[e] L. c. p. 78. It may here be remarked, that Dr. Cullen says, " we can perceive nothing in this bark but that of a simple bitter, the virtues ascribed to it in dysentery have not been confirmed by my experience, or that of the practitioners in this country; and leaving what others are said to have experienced to be further examined and considered by practitioners, I can only at present say, that my account of the effect of bitters will perhaps explain the virtues ascribed to Simaruba. In dysentery I have found an infusion of chamomile flowers a more useful remedy." *Mat. Med. vol. ii. p.* 75.

QUASSIA AMARA. BITTER QUASSIA.

SYNONYMA. Quassia. *Pharm. Lond. & Edinb.* Quassia pentaphylla pediculis alatis, floribus racemosis terminalibus coccineis fructu pentaspermo. *Patris in Gazette salutaire,* 1777, *n.* 41. 42. item in *Rozier Observations sur la Physique. Tom. ix.* 1777. *p.* 140. *Supp. Plant. p.* 235.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 529.

Ess. Gen. Ch. *Cal.* 5-phyllus. *Petala* 5. *Nectarium* 5-phyllum. *Pericarpia* 5, distantia 1-sperma.

Sp. Ch. Q. floribus hermaphroditis, foliis impari-pinnatis, foliolis oppositis sessilibus, petiolo articulato alato, floribus racemosis. *Suppl. Plant.*

THIS tree rises several feet in height, and sends off many strong branches: the wood is white and light; the bark is thin, and of a grey colour: the leaves are placed alternately upon the branches, and consist of two pair of opposite pinnæ, with an odd one at the end: all the leafets are of an elliptical shape, entire, veined, smooth, pointed, sessile, on the upper pagina of a deep green colour, on the under paler: the common footstalk is articulated and winged, or edged, on each side with a leafy membrane, which gradually expands towards the base of the pinnæ: the flowers are all hermaphrodite, of a bright red colour, and terminate the branches in long spikes: the bracteæ or floral leaves are lance-shaped or linear, coloured, and placed alternately upon the peduncles: the calyx is small, persistent, and five-toothed: the

Quassia amara

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corolla consists of five lance-shaped equal petals, at the base of which is placed the nectary, or five roundish coloured scales: the filaments are ten, slender, somewhat longer than the corolla, and crowned with simple antheræ, placed transversely: the receptacle is fleshy and orbicular: the germen is ovate, divided into five parts, and supports a slender style, longer than the filaments, and terminated by a tapering stigma: the capsules are five, two-celled, and contain globular seeds. It is a native of South America, particularly of Surinam, and also of some of the West-India Islands.

The botanical character of this species of Quassia was known long before that of the Simaruba, as it is noticed in its proper place in the Sp. Plantarum, upon the authority of Dahlberg, when it was thought peculiar to Surinam; afterwards, Linnæus, in his Materia Medica, referred it to the Nux americana, foliis alatis bifidis of *Commelin.*‖ It appears, however, that the figure given in the Amœnitates Academicæ,[a] is not a faithful representation of this species; hence the younger Linnæus has observed, "Figura floris in Dissertatione Parentis de Quassia vera est, sed ramulus cum foliis ad aliam pertinet;"[b] and consequently those copied from it, and since published by Buchoz, and others, are with respect to the leaves erroneous;* this will be evident, upon consulting the plate and description of the Quassia given by Patris, as well as the Icon here annexed, which was drawn from a specimen in the possession of that able naturalist Dr. J. E. Smith, President of the Linnæan Society.[c]

‖ *Hort. i. p. 423. t. 94.*

[a] See *Vol. vi. p.* 416. [b] *Suppl. Plant. p.* 235.

* On this account, we have not referred to the figure of the Quassia, lately published by Dr. Lettsom in the *Mem. of the Med. Society.*

[c] The ample and valuable collection of specimens in Natural History made by Linnæus, and to which most of his cotemporary naturalists were contributors, are now in the possession of this Gentleman, who has obligingly offered us any assistance it may afford us in the prosecution of this work.

The root, bark, and wood[d] of this tree, are all comprehended in the catalogues of the Materia Medica; but as the roots are perfectly ligneous, they may be medically considered in the same light as the wood, which is now most generally employed, and seems to differ from the bark in being less intensely bitter; the latter is therefore thought to be a more powerful medicine. Quassia has no sensible odour; its taste is that of a pure bitter, more intense and durable than that of almost any other known substance; it imparts its virtues more completely to watery than to spirituous menstrua, and its infusions are not blackened by the addition of martial vitriol. The watery extract is from a sixth to a ninth of the weight of the wood; the spirituous about a twenty-fourth. Quassia derived its name from a negro name Quassi, (by Fermin[e] written Coissi, and by Rolander Quass) who employed it with uncommon success, as a secret remedy in the malignant endemic fevers, which frequently prevailed at Surinam. In consequence of a valuable consideration, this secret was disclosed to Daniel Rolander, a Swede, who brought specimens of the Quassia-wood to Stockholm, in the year 1756; and since then the effects of this drug have been very generally tried in Europe, and numerous testimonies of its efficacy published by many respectable authors.[f] Various experiments with Quassia have likewise been made, with a view to ascertain its antiseptic powers, from which it appears to have considerable influence in retarding the tendency

[d] It may also be remarked, that the leaves, flowers, &c. likewise possess similar qualities. Toutes les parties du Cassie, écorce, bois, feuilles, fleurs, calice, enveloppes des graines, et les graines mêmes, sont d'une amertume energique, et dont n'approche aucun medicament jusqu'à present connu, &c. *Patris l. c. p.* 144.

[e] *Description de la Colonie de Surinam. Tom. i. p.* 212.

[f] Of these we may mention *Linnæus*, *Dahlberg*, *Blom*, *Fermin*, *Tissot*, *Thorstensen*, *Severius*, *Ebeling*, *Patris*, and many others, for which see *Murray App. Med. vol. iii. p.* 432. *& seq.*

to putrefaction,[s] and this Professor Murray thinks cannot be attributed to its sensible qualities, as it possesses no astringency whatever, nor can it depend upon its bitterness, as gentian is much bitterer, yet less antiseptic. The medicinal virtues ascribed to Quassia are those of a tonic, stomachic, antiseptic, and febrifuge; it has been found very effectual in restoring the tone of the stomach, producing appetite for food, assisting digestion, expelling flatulency, and removing habitual costiveness, produced from debility of the intestines, and common to a sedentary life. Dr. Lettsom, whose extensive practice gave him an opportunity of trying the effects of Quassia in a great number of cases, says, "In debility, succeeding febrile diseases, the peruvian bark is "most generally more tonic and salutary than any other vegetable "hitherto known; but in hysterical atony, to which the female "sex is so prone, the Quassia affords more vigour and relief "to the system than the other, especially when united with the "*vitriolum album*, and still more with the aid of some absorbent." In dyspepsia, arising from hard drinking, and also in diarrhœas, the Doctor exhibited the Quassia with great success. But with respect to the tonic and febrifuge qualities of Quassia, he says, "I by no means subscribe to the Linnæan opinion, where the "author declares, *me quidem judice chinchinam longe superat:* it "is very well known, that there are certain peculiarities of the "air and idiosyncrases of constitution, unfavourable to the ex-"hibition of the peruvian bark, even in the most clear inter-"missions of fever, and writers have repeatedly noticed it; but "this is comparatively very rare. About midsummer, 1785, "I met with several instances of low remittent and nervous "fevers, wherein the bark uniformly aggravated the symptoms, "though given in intermissions the most favourable to its success; "and wherein Quassia, or snake-root, was successfully substituted. "In such cases, I mostly observed, that there was great con-

[s] Vide Ebeling *Diss. de Quassia, &c. p.* 14. Severius, *Comment. in quo medicatæ Quassiæ vires expenduntur. p.* 77.

" gestion in the hepatic system, and the debility at the same " time, discouraged copious evacuations."—And in many fevers without evident remissions to warrant the use of the bark, whilst at the same time increasing debility began to threaten the life of the patient, the Doctor found that Quassia, or snake-root, singly or combined, " upheld the vital powers, and promoted a critical " intermission of fever," by which an opportunity was offered for the bark to effect a cure.[h] It may be given in infusion, or in pills made from the watery extract, the former is generally preferred in the proportion of three or four drams of the wood to twelve ounces of water.

[h] See *Memoirs of the Med. Society, vol. i. p.* 150.

Dr. Cullen says, " I believe Quassia to be an excellent bitter, and that it will do all that any pure and simple bitter can do; but our experience of it in this country does not lead us to think it will do more; and the extraordinary commendations given of it are to be ascribed to the partiality so often shewn to new medicines." *Mat. Med. v. ii. p.* 74..

Dianthus Caryophyllus

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ORD. XXXIII. CARYOPHYLLEÆ.

(From *Caryophyllus*, a pink or gilliflower.)

DIANTHUS CARYOPHYLLUS.‖ CLOVE PINK.

SYNONYMA. Caryophyllum rubrum. *Pharm. Lond. & Edinb.*
Caryophyllus hortensis simplex flore majore. *Bauh. Pin. p.* 208.
Caryophyllus simplex major. *Gerard. Emac. p.* 590. Vide *Park. Parad. p.* 306. *Rai Hist. p.* 986. *Synop. p.* 336. Dianthus Caryophyllus. *Hudson. Flor. Ang. Withering Bot. Arr. p.* 441.

α Caryophyllus hortensis simplex flore majore. *C. Bauh.*
Clove Pink.

β Caryophyllus maximus ruber & variegatus. *C. Bauh.*
*Common Carnation.**

Class Decandria. *Ord.* Digynia. *Lin. Gen. Plant.* 565.

Ess. Gen. Ch. *Cal.* cylindricus, 1-phyllus: basi squamis 4. *Petalæ* 5, unguiculata. *Caps.* cylindrica, 1-locularis.

Sp. Ch. D. floribus solitariis, squamis calycinis subovatis brevissimis, corollis crenatis.

‖ " Ut nomen traxisse ab odoris affinitate qualicunque dubium non est; ita nescio sane quæ et unde sit barbara illa vox tunica. *Bauh. Pin. p. c.*

* Vide Aiton's *Hort. Kew.*

THE root is perennial, firm, divided, and beset with many fibres: the stems are slender, smooth, branched, upright, jointed, of a glaucous, or sea green, colour, and rise from one to two feet in height: the leaves upon the stem are short, linear, and placed in pairs at the joints: those of the young shoots are numerous, narrow, pointed, smooth, entire, and of the same colour as the stalk: the flowers stand singly at the extremities of the branches, and are of a deep crimson colour: the calyx is tubular, cylindrical, divided at the mouth into five segments, and surrounded at the base with four oval pointed squamæ: the corolla consists of five petals, which at the limb are roundish, patent, scolloped, fringed, and attached to the common receptacle by long narrow claws: the ten filaments are longer than the calyx, tapering, spreading towards the top, and furnished with compressed oblong antheræ: the germen is oval: the styles two, slender, longer than the filaments, and their stigmata curled outwards: the capsule is cylindrical, and contains many small roundish seeds.

This fragrant plant is known to grow wild in several parts of England on old walls and in the crevices of rocks;† but the flowers, which are pharmaceutically employed, are usually produced in gardens, where they become extremely luxuriant, and by the arts of culture those beautiful varieties raised which are so highly esteemed under the name of Carnations. The flowers of the Clove Pink, or as it is more commonly called, Clove July Flower, have a pleasant aromatic smell, somewhat allied to that of clove spice: their taste is bitterish and subastringent. "Rectified spirit, digested on the flowers, receives a much paler tincture than watery liquors, but extracts the whole of their active matter. In distillation or evaporation, spirit elevates much less than water; the spirituous extract retaining a considerable share of the fine smell of the flowers as well as their taste: its colour is purplish like that of the watery extract."[a]

† At Rochester, Deal, Sandown, and other castles, plentifully. See *Ray* and *Hudson*.

[a] Lewis's *Mat. Med. p.* 205.

Saponaria Officinalis.

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Formerly these flowers were supposed to have considerable effect upon the nervous system, and were therefore recommended in head-achs, faintings, palpitations of the heart, convulsions, tremors, &c. and S. Paulli says, that he found them of great use even in malignant fevers.[b] At present, however, they are valued merely for their sensible qualities, and the syrupus caryophylli rubri, which is the only officinal preparation of these flowers, is to be considered in this light: its pleasant flavour and fine colour rendering it an useful vehicle for other medicines.

[b] *Quad. Bot. p.* 242.

SAPONARIA OFFICINALIS. SOAPWORT.

SYNONYMA. Saponaria. *Pharm. Dale.* 230. *Rutty.* 463. *Lewis.* 584. *Edinb. New Dispens.* 277. *Murray. iii.* 505. *Bergius.* 369. *Hall. Hist. Helv. n.* 980. Saponaria major lævis. *Bauh. Pin.* 206. *Gerard. Emac.* 444. Saponaria vulgaris. *Park.* 641. *Ray. Hist.* 999. Lychnis Saponaria dicta. *Ray. Synop.* 339. S. officinalis. *Huds. Ang.* 183. *With. Bot. Arr.* 438. *Ic. Flor. Dan.* 543. *Flor. Lond.*

Decandria Digynia. *Lin. Gen. Plant.* 564.

Gen. Ch. *Cal.* 1-phyllus nudus. *Petala* 5, unguiculata. *Caps.* oblonga, 1-locularis.

Sp. Ch. S. calyc. cylindricis, fol. ovato-lanceolatis.

ROOT perennial, spreading, widely branched, covered with a reddish cuticle. Stalks about a foot in height, erect, firm, round, jointed, sending off opposite branches. Leaves oval, entire, pointed, connate, furnished with three ribs. Flowers numerous, terminal, of a pale flesh or white colour. Calyx cylindrical, rigid,

oblong, divided at the apex into five pointed teeth. Corolla composed of five petals, which are furnished with long angular claws: the limb is inversely heart-shaped, and at its base supplied with two nectarious teeth, placed in the centre. Filaments ten, tapering, longer than the calyx, furnished with oblong antheræ. Germen oblong, beset with transverse rugæ. Styles two, tapering, white. Stigmata simple. Capsule one-celled, containing numerous black kidney-shaped seeds.

It is a native of England, affecting moist situations, and flowering in July and August.

A double-flowered variety of this plant is not unfrequently met with in gardens.

The root has no peculiar smell; its taste is sweetish, glutinous, and somewhat bitter; on being chewed for some time, it is said to discover a degree of acrimony, which continues to affect the mouth a considerable time. According to Neuman, two ounces of the root yielded eleven drams of watery extract; but Cartheuser, from a like quantity, only obtained six drams, and twenty-four grains. This extract manifested a sweetish taste, followed by an acrid quality. The spirituous extract is less in quantity, but of a more penetrating acrid taste. Decoctions of the root, on being sufficiently agitated, produce a saponaceous froth; a similar soapy quality is observable also in the extract, and still more manifestly in the leaves, insomuch that they have been used by the mendicant monks as a substitute for soap in washing of their clothes; and Bergius, who made several experiments with the Saponaria, declares that it has all the effects of soap itself.[a]

From these peculiar qualities[b] of the Saponaria there can be little doubt of its possessing a considerable share of medical efficacy which we could wish to find faithfully ascertained.

[a] He observes also, that the Saponaceous quality is not injured by acids, like that of the common soap.

[b] Perhaps we should except the kernels of the fruit of the Sapindus Saponaria, the root of Gypsophila Struthium, and the flowers of the Lychnis chalcedonica.

The diseases for which the Saponaria is recommended, as syphilis, gout, rheumatism, and jaundice, are not perhaps the complaints in which its use is most availing; for a fancied resemblance of the roots of Saponaria with those of sarsaparilla, seems to have led physicians to think them similar in their effects, and hence they have both been administered with the same intentions, particularly in fixed pains, and venereal affections. Bergius says, "in arthri-" tide, cura mercuriale, &c. nullum aptiorem potum novi."

However, according to several writers, the most inveterate cases of syphilis were cured by a decoction of this plant, without the use of mercury.[c]

Haller informs us, that Boerhaave entertained an high opinion of its efficacy in jaundice, and other visceral obstructions.

[c] Vide Rudius. *De morb. occult. et venenat. L.* 5. *c.* 18. *p.* 215. Septalius, *Animadv. et caut. med. p.* 275. Zapata, *Memorab. medico-chir.* Werner. *Diss. de virtute saponar.*

ORD. XXXIV. CALYCANTHEMÆ.

ORD. XXXV. ASCYROIDEÆ.

(From ασκυρον, the name given by Pliny for *Hypericum*, or St. John's Wort.)

CISTUS CRETICUS. CRETAN CISTUS.

Planta à qua colligitur *Ladanum*. *Pharm. Lond.*

SYNONYMA. Cistus ladanifera cretica, flore purpureo. *Tournef. Coroll. Inst. rei herb. p.* 19. *Voyage du Levant. t. i. p.* 29. Cistus ladanifera vera. *Park. Theat, p.* 666. Cistus, Ledon Cretense. *Bauh. Pin. p.* 467. Cistus Ledon Matthioli. *Gerard. Emac. p.* 1286. Cistus *(creticus)* arborescens, foliis ovato-lanceolatis, hirsutis, marginibus undulatis, floribus terminalibus. *Miller. Dict. Jacqu. ic. collect. i. p.* 80.

Class Polyandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 673.

Ess. Gen. Ch. *Cor.* 5-petala. *Cal.* 5-phyllus: foliolis duobus minoribus. *Capsula.*

Sp. Ch. C. arborescens exstipulatus, foliis spatulato-ovatis petiolatis enerviis scabris, calycinis lanceolatis.

Cistus creticus

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THIS handsome shrub seldom rises to any considerable height; it is covered with a dark coloured bark, and sends off several simple branches: the leaves are oblong, pointed, waved, rough, viscous, veined, and stand in pairs upon short footstalks, which are broad at the base, so as nearly to surround the younger branches: the flowers are produced in succession at the extremities of the branches in June and July; they are large, of a purplish red colour, marked with dark spots at the base of each petal, and stand on short peduncles: the calyx is divided in five large oval pointed persistent segments, of which the two outermost are the smallest: the corolla is composed of five petals, which are large, roundish, spreading, and readily fall off on being touched: the filaments are numerous, very short, slender, and supplied with simple antheræ of an orange colour: the germen is oval, and supports a short style, furnished with a flat circular stigma: the capsule is roundish, and contains many small orbicular seeds.

This shrub, which is a native of Candia and some of the islands of Archipelago, was first cultivated in England by Mr. P. Miller in the year 1731,[a] and is now to be had of several of the London gardeners, though it is not so commonly met with as many other exotic species of this genus. Not only this plant, but most of its congeners, abound with a glutinous liquor, which in summer exudes upon their leaves, and seems to be of the ladanum kind; but it is well known, that the Cistus creticus is the species from which the officinal Ladanum is collected. This is done in Candia by means of an instrument called there *Ergastiri*, made in the form of a rake, to which several leathern thongs are fixed instead of teeth, and with which the leaves of the shrub are lightly brushed backwards and forwards, so that the fluid Ladanum may adhere to the leather, from which it is afterwards scraped off with knives, and formed into regular masses for exportation.[b]

[a] See Aiton's Hort. Kew.

[b] See Belon. *Observations de plusieurs singularités en Grece, Asie, &c. Lib. i. c.* 7. and Tournefort. *Voyage du Levant. t. i. p.* 29. where the Ergastiri is described and figured.

As this drug is observed to issue most copiously in the hottest weather, the method of gathering above described must be performed when the intensity of the sun's heat renders it a very laborious and troublesome employment.

Three sorts of Ladanum have been described by authors, but only two are now to be met with in the shops. "The best, which is very rare, is in dark coloured masses, of the consistence of a soft plaster, growing still softer on being handled: the other is in long rolls, coiled up, much harder than the preceding, and not so dark. The first has commonly a small and the last a large admixture of fine sand, which in the Labdanum examined by the French Academy amounted to three-fourths of the mass. It is scarcely indeed to be collected pure, independently of designed abuses; the dust blown on the plant by winds from the loose sands among which it grows, being retained by the tenacious juice. The soft kind has an agreeable smell, and a lightly pungent bitterish taste: the hard is much weaker. Rectified spirit of wine dissolves nearly the whole of pure Labdanum into a golden-coloured liquor: on inspissating the filtered solution, the finer parts of the Labdanum rise with the spirit, and the remaining resin proves both weaker and less agreeable than the juice at first. On infusing the Labdanum in water it impregnates the liquor considerably with its smell and taste, and in distillation with water, there comes over a fragrant essential oil."[d]

This resin was formerly much employed internally as a pectoral and astringent in catarrhal affections, dysenteries, and several other diseases; at present however it is wholly confined to external use, and is an ingredient in the stomachic plaster, or emplastrum landani of the London Pharm. It is also sometimes used in the way of fumigation.

By the ancients we are told, that the Λαδανον was collected by combing the beards and thighs of goats who browzed upon the cistus, and to whose hair the drug was found to adhere: another method of gathering it, was by drawing cords over those shrubs which produce it. See Dioscorides, *Mat. Med. Lib. i. p.* 128. and Pliny, *Hist. Nat. Lib. xii. cap. xvii.*

[d] Lewis, *M. M. p.* 368.

Hypericum perforatum

HYPERICUM PERFORATUM. PERFORATED St. JOHN's WORT.

SYNONYMA. Hypericum, *Pharm. Lond.* Hypericum caule tercte, alato, ramosissimo, foliis ovatis perforatis. *Hal. Stirp. Helv.* n. 1037. Hypericum vulgare sive perforata, caule rotundo, foliis glabris. *J. Bauhin* III. 382. Hypericum vulgare, *Bauh. Pin.* 279. *Raii Synop.* 342.

Class. Polyadelphia. *Ord.* Polyandria. L. *Gen. Plant.* 902.

Ess. Gen. Ch. *Cal.* 5-phyllus. *Petala* 5. *Nect.* 0. *Capsula. Aiton's Hortus Kewensis.*

Sp. Ch. H. Floribus trigynis, caule ancipiti, fol. obtusis pellucido-punctatis.

THIS species of the Hypericum generally grows to the height of a foot and a half; the root is perennial, ligneous, divided and subdivided into many small branches, and covered with a straw-coloured bark; the stalks are round, smooth, of a light colour, and towards the top send off many opposite floriferous branches; the leaves are without footstalks, and placed in pairs; they are entire, oval, and beset with a great number of minute transparent vesicles,‖ which have the appearance of small perforations through the dise, and hence the specific name, perforatum.

The flowers are numerous, pentapetalous, terminal, of a deep yellow colour, and grow in a corymbus, or in clusters, upon short peduncles; each petal is of an irregular oval shape and on the under side near the apex, is marked with many blackish dots; the calyx consists of five persistent acute leaves; the stamina are

‖ Folia enim innumeris scatent foraminibus, iisque adeo minutis, ut visum effugiant nisi ipsi folia soli objecta inspiciantur. Matthiol. in Dioscord. p. 668. And these vesicles, or glands, have been found to contain an essential oil of a terebinthinate quality. Geoffroy Mal. Med. Gadd thinks that it approaches nearer to the gum-resin. Lac. Vet. Acad. Handl. 1762. p. 119.

numerous, and commonly unite at their bases into three portions, or bundles; the antheræ are yellow, and marked with a small black gland;* the styli are three, and the capsule has three cells, which contain many small oblong brownish seeds. It grows commonly in woods and uncultivated grounds, and flowers in July.

Bergius describes the Hypericum quadrangulum instead of the perforatum, and thinks it the better officinal plant. "In pharmacopoliis nostris indiscrete colligunt Hypericum perforatum & quadrangulum; quod perinde quoque esse poterit, cum ambæ species puncta nigrecantia gerant; quadrangulum vero plurima."[a] Hypericum has a bitterish subastringent taste, and a sweetish smell. It was in great repute with the ancients, who prescribed it in hysteria, hypocondriasis and mania: they also imagined that it had the peculiar power of curing demoniacks, and thence obtained the name of *Fuga dæmonum:*[b] it was also recommended internally for wounds, bruises, ulcers, hæmoptysis, mictus cruentus, gravel, dysentery, agues, worms,[c] and outwardly as an anodyne, and as a discutient and detergent. However it is now very rarely used, and its name is omitted in the Materia Medica of the last edition of the Edindurgh Pharmacopœia. In the London Pharmacopœia the flowers only are directed to be used, as containing the greatest proportion of the resinous oily matter in which the medical efficacy of the plant is supposed to reside. The dark puncta of the petals and the capsules, afford this essential oil, which is contained in minute vesicles, or glands, and gives a red colour to rectified spirit, and to expressed oils; the latter has been long known in the shops by the name of Oleum Hyperici.[d]

* Mr. Curtis observes, that a little black gland on the antheræ, distinguishes this species at one view. Flor. Lond.

[a] Bergius Mat. Med. 641.

[b] Scripsere quidam Hypericum adeo odisse dæmones, ut ejus sussitu statim avolent. Matthiol. l. c.

[c] See Haller, l. c. Alston's Mat. Med. vol. 2. p. 150. Bergius, l. c. Murray's Apparat. vol. 3. p. 518.

[d] This colouring matter gives a good die to wool. Gadd. l. c. aliique.

Fraxinus Ornus

Published by W Phillips

FRAXINUS ORNUS. FLOWERING ASH.

SYNONYMA. Fraxinus tenuiore & minore folio. *Bauh. Hist.* i. p. 177. Fraxinus humilior sive altera Theophrasti, minore & tenuiore folio. *Bauh. Pin. p.* 416. Fraxinus Ornus, foliolis serratis, floribus corollatis. *Lin. Sp. Plant.* Mannifera arbor. Succus condensatus est Manna. *Pharm. Lond. & Edinb.*

Class Polygamia. *Ord.* Dioecia. *Lin. Gen. Plant.* 1160.

Ess. Gen. Ch. Hermaphrod. Cal. 0, s. 4-partitus. *Cor.* 0, s. 4-petala. *Stam.* 2. *Pist.* 1. *Sem.* 1, lanceolatum.
Fem. Pist. 1, lanceolatum.

Sp. Ch. F. foliis ovato-oblongis serratis petiolatis, floribus corollatis. *Hort. Kew.*

THIS tree greatly resembles our common ash: it is lofty, much branched, and covered with a greyish bark. The young shoots produce the leaves, which are pinnated, opposite, and consist of several pair of pinnæ, or small leaves, terminated by an odd one, pointed, serrated, veined, standing upon footstalks, of an oval or oblong shape, and bright green colour. The flowers grow in close thick branched spikes, and open in May and June. In the specimen we have figured, the flowers were all hermaphrodite; the corolla divided into four narrow whitish segments, somewhat longer than the stamina; the two filaments tapering, and crowned with large furrowed erect antheræ; the germen oval, and a little compressed; the style short and cylindrical; the capsule is long, flat, membranous, and contains a single flat pointed seed.

This tree is a native of the southern parts of Europe, particularly

of Sicily and Calabria.[a] It was first introduced into England about seventy years ago, by Dr. Uvedale;[b] and at present adorns many of the gardens of this country.

The Ornus is not the only species of ash which produces Manna; the *rotundifolia* and *excelsior*, especially in Sicily, also afford this drug, though less abundantly. Many other trees and shrubs have likewise been observed, in certain seasons and situations, to emit a sweet juice, which concretes on exposure to the air, and may be considered as of the manna kind.[c] In Sicily the three species of the Fraxinus, mentioned above, are regularly cultivated for the purpose of procuring Manna, and with this view are planted on the declivity of a hill, with an eastern aspect. After ten years growth, the trees first begin to yield the Manna, but they require

[a] The Ornus is observed by Dr. Cirillo to be very common on the famous mountain Garganus, so that the words of Horace may still apply;

——————— aut Aquilonibus
Querceta Gargani laborant,
Et foliis viduantur orni. L. ii. Od. 9.

[b] Vide Hort Kew.

[c] Dr. Cullen is certainly right in supposing "Manna a part of the sugar so universally present in vegetables, and which exudes on the surface of a great number of them;" the qualities of these exudations he thinks are "very little if at all different." The principal trees known to produce these mannas in different climates and seasons, are the larch, (*vide Murray Ap. Med. i. p.* 17.) the fir, (Iac. V. Engestrom in *Physiogr. Sälskapets Handl. Vol. i. P.* 3. *p.* 144.) the orange, (De La Hire *Hist. de l'acad. d. sc. de Paris*, 1708.) the walnut, (*Hal. Stirp. Helv. N.* 1624.) the willow, (Mousset in Du Hamel. *Physique des arbres, P. i. p.* 152.) the mulberry, (Micheli in Tragioni Tozzetti *Viaggi, Tom.* 6. *p.* 424.) oaks, situated between Merdin and Diarbekir (Niebuhr *Beschreib V. Arab. p.* 145. Otter, *Voyage en Turquie et en Perse, Vol.* 2. *p.* 264.) also oaks in Persia near Khounsar (Otter. l. c.) the al hagi Maurorum, or the hedysarum alhagi of Linnæus; of this manna Dr. Fothergill presented a specimen to the Royal Society, which he considered as the Tereniabin of the Arabians, (*Phil. Trans. Vol.* 43. *p.* 87.) the cistus ladaniferus in some parts of Spain produces a manna, which, in its recent state, has no purgative quality, and is eaten by the shepherds: so that some fermentation seems necessary to give it a cathartic power, (*Vide Dillon's Travels through Spain, p.* 127.)

to be much older before they afford it in any considerable quantity. Although the Manna exudes spontaneously upon the trees, yet in order to obtain it more copiously, incisions are made through the bark, by means of a sharp crooked instrument; and the season thought to be the most favourable for instituting this process, is a little before the dog-days commence, when the weather is dry and serene. The incisions are first made in the lower part of the trunk, and repeated at the distance of an inch from the former wound, still extending the incisions upwards as far as the branches, and confining them to one side of the tree, the other side being reserved till the year following, when it undergoes the same treatment. On making these incisions, which are of a longitudinal direction, about a span in length, and nearly two inches wide, a thick whitish juice immediately begins to flow, which gradually hardens on the bark, and in the course of eight days acquires the consistence and appearance in which the Manna is imported into Britain, when it is collected in baskets, and afterwards packed in large chests.‡ Sometimes the Manna flows in such abundance from the incisions, that it runs upon the ground, by which it becomes mixed with various impurities, unless prevented, which is commonly attempted, by interposing large concave leaves, stones, chips of wood, &c. The business of collecting Manna usually terminates at the end of September, when the rainy season sets in.[d]

‡ La manne est le principal revenu de ce pays & de quelques autres qui en sont voisins. Il monte dans une bonne annee a vingt-cinq mille Louis d'or. Houel Voyage Pittoresque, tom. 1. p. 53.

[d] This account is taken from Houel *Voyage Pittoresque*, and Sestini *Lettre della Sicilia*, and related by Murray: to which we shall subjoin Dr. Cirillo's account, communicated to the Royal Society. Vide Vol. 60. p. 233.

"The manner, in which the manna is obtained from the Ornus, though very simple, has been yet very much misunderstood by all those who travelled in the kingdom of Naples; and among other things they seem to agree, that the best and purest manna is obtained from the leaves of the tree; but this, I believe, is an opinion taken from the doctrine of the ancients, and received as an incontestible observation, without consulting nature. I never saw such a kind, and all those

From this account it is evident, that Manna is the *succus proprius* of the tree; any arguments therefore brought to combat the ancient opinion of its being a *mel aërium,* or honey-dew, are wholly unnecessary: that, with which the Israelites were so peculiarly favoured, could only have been produced through miraculous means, and is consequently out of the province of the *natural* historian.—Manna is generally distinguished into different kinds, viz. the Manna in tear, the canulated and flaky Manna, and the common brown or fat Manna. All these varieties seem rather

who are employed in the gathering of the manna, know of none that comes from the leaves. The manna is generally of two kinds; not on account of the intrinsic quality of them being different, but only because they are got in a different manner. In order to have the manna, those who have the management of the woods of the Orni in the months of July and August, when the weather is very dry and warm, make an oblong incision, and take off from the bark of the tree about three inches in length, and two in breadth; they leave the wound open, and by degrees the manna runs out, and is almost suddenly thickened to its proper consistence, and is found adhering to the bark of the tree. This manna, which is collected in baskets, and goes under the name of *manna grassa*, is put in a dry place, because moist and wet places will soon dissolve it again. This first kind is often in large irregular pieces of a brownish colour, and frequently is full of dust and other impurities. But when the people want to have a very fine manna, they apply to the incision of the bark, thin straw, or small bits of shrubs, so that the manna, in coming out, runs upon those bodies, and is collected in a sort of regular tubes, which gives it the name of *manna in cannoli*, that is, manna in tubes: this second kind is more esteemed, and always preferred to the other, because it is free and clear. There is indeed a third kind of manna, which is not commonly to be met with, and which I have seen since I left Calabria: it is very white, like sugar; but as it is rather for curiosity than for use, I shall say no more of it. The two sorts of manna already mentioned undergo no kind of preparation whatsoever, before they are exported; sometimes they are finer, particularly the *manna grassa*, and sometimes very dirty and full of impurities; but the Neapolitans have no interest in adulterating the manna, because they always have a great deal more than what they generally export; and if manna is kept in the magazines, it receives often very great hurt by the Southern winds, so common in our part of the world. The changes of the weather produce a sudden alteration in the time that the manna is to be gathered; and, for this reason, when the summer is rainy, the manna is always very scarce and very bad."

to depend upon their respective purity, and the circumstances in which they are obtained from the plant, than upon any essential difference of the drug: when the juice transudes from the tree very slowly, the Manna is always more dry, transparent, and pure, and consequently of more estimation; but when it flows very copiously it concretes into a coarse brown unctuous mass; hence we have a reason, why, by applying straws and other substances to receive the flowing juice, the Manna becomes much improved: Houel, who tasted the manna when flowing from the tree, found it much bitterer than in its concrete state; this bitterness he attributes to the aqueous part, which is then very abundant, of course the manna is meliorated by all the circumstances which promote evaporation. According to Lewis, "the best Manna is in oblong pieces, or flakes, moderately dry, friable, very light, of a whitish or pale yellow colour, and in some degree transparent: the inferior kinds are moist, unctuous, and brown. Manna liquifies in moist air, dissolves readily in water, and, by the assistance of heat, in rectified spirit. On inspissating the watery solution, the Manna is recovered of a much darker colour than at first. From the saturated spirituous solution, great part of it separates as the liquor cools, concreting into a flaky mass, of a snowy whiteness, and a very grateful sweetness."

Manna is well known as a gentle purgative, so mild in its operation, that it may be given with safety to children and pregnant women; in some constitutions however it produces trouble-some flatulencies, and therefore requires the addition of a suitable aromatic, especially when given to an adult, where a large dose is necessary; it is therefore usually acuated by some other cathartic of a more powerful kind. The efficacy of Manna is said, by Vallisnieri, to be much promoted by cassia fistularis, a mixture of the two purging more than both of them separately; it is therefore very properly an ingredient in the electuarium e cassia.

ORD. XXXVI. COADUNATÆ.

ORD. XXXVII. DUMOSÆ.

(From *Dumus*, a Bush.)

Bushy shrubby plants, thickly beset with irregular branches.

RHAMNUS CATHARTICUS. PURGING BUCKTHORN.

SYNONYMA. Spina cervina. *Pharm. Lond. & Edinb.* Rhamnus catharticus. *Bauh. Pin. p.* 478. *Raii Hist. p.* 1625. *Synop. p.* 466. *Hudson. Flor. Ang. p.* 98. *Withering. Bot. Arrang. p.* 239. *Flor. Dan.* 850. Rhamnus solutivus. *Gerard. Emac. p.* 1337. Rhamnus solutivus sive Spina infectoria vulgaris. *Park. Theat. p.* 243. Rhamnus foliis spinosis, ovato-lanceolatis, serratis. *Hal. Stirp. Helv. n.* 824.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 265.

Ess. Gen. Ch. *Cal.* tubulosus: squamis stamina munientibus. *Cor.* nulla. *Bacca.*

Sp. Ch. R. spinis terminalibus, floribus quadrifidis dioicis, foliis ovatis, caule erecto.

Rhamnus catharticus.

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THIS shrub is covered with dark brownish bark, divided into many branches, beset with strong spines, and usually rises seven or eight feet in height: the leaves are nearly elliptical, serrated, veined, and stand on shortish footstalks: the flowers are commonly male and female upon different plants, small, greenish, and placed in clusters upon simple peduncles: the calyx supplies the place of a corolla, it is funnel-shaped, of a pale green colour, and divided at the extremity into four spreading pointed segments: the filaments are usually four, arising from the base of a small convex scale, very short, and furnished with round antheræ; the germen is round, and supports a slender style, terminated by a trifid stigma: the fruit is a round black berry, containing four seeds, which are compressed on one side, and protuberant on the other. It is a native of Britain, usually growing in woods and hedges near brooks, flowering in May and June, and ripening its seeds about the end of September.

The fruit or berries of this Shrub, which have been long received into the Materia Medica, are about the size of a small pea, and when ripe of a shining black colour: they contain a pulpy deep green juice,[a] which has a faint unpleasant smell, and a bitterish, acrid, nauseous taste: they operate briskly by stool, and hence the plant derives the trivial name *catharticus*:[b] their purgative effects are constantly accompanied with considerable thirst, and dryness of the mouth and throat, and frequently with severe griping of the bowels, especially unless some diluting liquor be plentifully drunk immediately after taking them.

" The dose is said to be about twenty of the fresh berries in substance; twice or thrice that number in decoction: a dram or a dram and a half of the dried berries; an ounce of the expressed

[a] This juice is called by the French Verd de Vessie, or Sap Green, and is used for painting or staining paper: that of the unripe berries is yellow, and when the berries are gathered late in the autumn, the juice is purple. It is also used as a dye. See *Lin. Flor. Suec. p.* 72.

[b] It is reported that the flesh of those birds which feed upon these berries is purgative. Homberg, *Mem. de l'Acad. des Sc. de Paris*, 1712. *p.* 9.

juice; or half an ounce of the rob or extract, obtained by inspissating the juice."[c] The juice made into a syrup is the officinal preparation, and in this state it has been generally preferred by physicians, who found that in doses of one ounce to two it proved a very powerful purgative, and was therefore much employed as a hydragogue.[d] Few patients however are able to bear a frequent repetition of this medicine; and even Sydenham, who was partial to the purgative treatment of hydropical diseases, found that other cathartics more effectually answered this purpose: at present it is rarely prescribed except in conjunction with other medicines of this class.

The inner bark, like that of Elder, is said to be a strong cathartic, and to excite vomiting.[e]

[c] Lewis, *M. M. p.* 612.

[d] Riverius, *Prax. lib. ii. cap.* 6. *p.* 44.—Boerhaave, *De virib. med. p.* 308.—Chomel, *Usuell. tom. i. p.* 19.—Sydenham, *Opera, p.* 488.

[e] Allioni, *Fl. Pedemont, t. ii. p.* 130.

SAMBUCUS NIGRA. COMMON BLACK ELDER.

SYNONYMA. Sambucus. *Pharm. Lond. & Edinb.* Sambucus fructu in umbella nigro. *Bauh. Pin. p.* 456. Sambucus vulgaris. *Park. Theat. p.* 407. *J. Bauh. vol. i. p.* 544. *Raii Hist. p.* 1609. *Synop. p.* 461. *Gerard. Emac. p.* 1422. *Hudson Flor. Ang. p.* 130. *Flor. Dan.* 545. *Withering. Bot. Arrang. p.* 320. *Duhamel, t.* 65. Sambucus arborea, floribus umbellatis. *Hal. Stirp. Helv. n.* 670.

Varietates sunt,

β Sambucus fructu in umbella viridi. *C. Bauh.*

γ Sambucus laciniato folio. *C. Bauh.*

Class Pentandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 372.

Ess. Gen. Ch. *Cal.* 5-partitus. *Cor.* 5-fida. *Bacca* 3-sperma.

Sambucus nigra

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Sp. Ch. S. cymis quinquepartitis, foliis pinnatis, caule arboreo.

THE root is woody, from which issues a shrubby stem often to the height of twelve or sixteen feet: it is much branched towards the top, and covered with a rough whitish bark: the wood is hard, tough, and contains in the centre a large proportion of medullary matter, or pith: the leaves are pinnated, consisting of two or three pair of pinnæ or leafits, with an odd one at the end; they are oval, veined, smooth, deeply serrated, and of a deep green colour: the flowers are small, white, and produced in large flat umbels or clusters: the calyx is permanent, placed above the germen, and divided into five segments: the corolla is monopetalous, wheel-shaped, somewhat convex, and divided into five obtuse segments: the filaments are tapering, spreading, equal in length to the corolla, and crowned with roundish antheræ: the germen is oval, and furnished with a prominent gland, which supplies the place of the styles, and supports three blunt stigmata: the fruit is a round succulent berry, of a blackish purple colour, and contains three seeds, which are flat on one side, and angular on the other. It is a native of Britain, in moist hedges and woods, and flowers in May and June.

This species is the Ἀκτὴ[a] of the Greek writers, and has been long very generally employed for medical purposes. The whole plant has an unpleasant narcotic smell, and some authors have reported its exhalations to be so noxious as to render it unsafe to sleep under its shade.[b] The parts of the Sambucus, which are proposed

[a] Sambucus, Ἀκτὴ Græcis, a Sambuca musico instrumento, quod alii pectida, alii magadin vocant, dicta putatur. Alii ab autore cui nomen Sambyx denominatum malunt. Nobis vox incertæ originis esse videtur. *Raii Hist. p.* 1609.

[b] The Berries are said to be poisonous to poultry. (*Barthol. Hist. anat. rarior. Cent. iv. p.* 248.) And the flowers to peacocks. *Linn. Flor. Suec. p.* 79. If turneps, cabbages, fruit-trees, or corn, (which are subject to blight from a variety of insects) are whipped with the green leaves and branches of Elder, the insects will not attack them. *Withering. l. c.* See *Phil. Trans. vol. lvii. p.* 348.

for medicinal use in the Pharmacopœias,[c] are the inner bark, the flowers, and the berries. The first has scarcely any smell, and very little taste: on first chewing, it impresses a degree of sweetishness, which is followed by a very slight, but durable acrimony, in which its powers seem to reside, and which it imparts both to watery and spirituous menstrua. It is strongly cathartic, and on this account was much used by Sydenham[d] and Boerhaave,[e] who recommend it as an effectual hydragogue; the former directs three handfuls of it to be boiled in a quart of milk and water, till only a pint remains, of which one half is to be taken night and morning, and repeated for several days: it usually operates both upwards and downwards, and upon the evacuations it produces its utility depends. Boerhaave gave its expressed juice in doses from a dram to half an ounce. In smaller doses it is said to be an useful aperient and deobstruent in various chronical disorders.

"The flowers have an agreeable flavour, which they give over in distillation with water, and impart by infusion both to water and rectified spirit: on distilling a large quantity of them with water, a small portion of a butyraceous essential oil separates. Infusions made from the fresh flowers are gently laxative and aperient: when dry they are said to promote chiefly the cuticular excretion, and to be particularly serviceable in erysipelatous and eruptive disorders." Externally they are used in fomentations, &c. and in the London Pharmacopœia directed in the form of an ointment. "The berries, in taste, are somewhat sweetish, and not unpleasant; on expression, they yield a fine purple juice, which proves an useful aperient and resolvent in recent colds and sundry chronical diseases, gently loosening the belly, and promoting urine and perspiration."[f] The officinal preparation of these berries is the succus baccæ sambuci spissatus. (Pharm. Lond.)

[c] The leaves are purgative like the bark, but more nauseous.

[d] *Oper. p.* 496. [e] *Hist. Plant. P. I. p.* 207.

[f] *Lewis M. M. p.* 576.

Sambucus Ebulus

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SAMBUCUS EBULUS. DWARF ELDER.

SYNONYMA. Ebulus. *Pharm. Geoff. iii.* 415. *Dale.* 319. *Alston. i.* 485. *Lewis.* 376. *Ed. New Dis.* 184. *Cullen. ii.* 534. *Bergius.* 240. *Murray. iv.* 22. Sambucus humilis seu Ebulus. *Bauh. Pin.* 456. Ebulus sive Sambucus humilis. *Gerard Emac.* 1426. *Park.* 209. *Ray. Syn.* 461. *Hall. Stirp. Helv. n.* 671. S. Ebulus. *Huds. Ang.* 130. *Withering. Bot. Arr.* 319. *Flor. Lond.* 213.

Pentandria Trigynia. *Lin. Gen. Plant.* 372.

Gen. Ch. *Cal.* 5-partitus. *Cor.* 5-fida. *Bacca* 3-sperma.

Sp. Ch. S. cymis tripartitis, stipulis foliaceis, caule herbaceo.

ROOT long, creeping. Stalk six feet in height, herbaceous, erect, roundish, smooth, channelled, swelled at the joints, sending off opposite branches. Leaves opposite, pinnated, composed of four or five pair, with an odd one at the extremity: pinnæ somewhat lanceolate, unequal at the base, serrated, veiny, downy underneath. Stipulæ quadruple, nearly heart-shaped. Flowers in a terminal corymbus, divided into three branches, composed of numerous cymæ. Calyx divided into five teeth, which are short, erect, pointed. Corolla monopetalous, wheel-shaped, divided into five segments, which are ovate, pointed, hollow, reflexed. Filaments five, thick, white, of the length of the corolla. Antheræ large, double, changing from a reddish to a blackish colour. Germen below the corolla, ovate, somewhat angular, smooth. Style none. Stigmata three, glutinous, reniform. Fruit a roundish black single-celled berry, containing three irregularly-shaped seeds.

It is not unfrequent in hedges, flowering in June and July, but seldom bringing its fruit to maturity.

Every part of the plant has a faint disagreeable smell, resembling that of common elder, but stronger and more ungrateful; and when taken into the stomach manifests a greater share of active power.

The *root* of the Ebulus, which is white, fleshy, and of a nauseous bitter taste, was formerly very generally employed in dropsies. A decoction of two drams of it, or a small quantity of its expressed juice, promotes both the alvine and urinary discharges; and if the decoction is prepared from the bark of the fresh root, its activity is so much increased, that it commonly proves both emetic and cathartic.

The inner bark of the stalk, when recent, is equally powerful in evacuating the primæ viæ; and its effects, as a diuretic, on the testimony of Dr. Brocklesby,[a] were found to be very considerable; but its operation is so violent and precarious, that it is now very rarely employed.

The berries, in their recent state, according to Scopoli,[b] prove a gentle cathartic, though Haller[c] says that he never experienced this effect from their use.

The seeds are said to be diuretic, and to have been given with advantage in dropsical complaints: they also afford an oil, which Haller applied with success in painful affections of the joints.

The leaves,[d] boiled in wine, and formed into a cataplasm, have been recommended in France as a discutient application to contusions and tumours.

[a] See *Oecon. & Med. Observations. p.* 277.

[b] *Flor. Carn.*

[c] *Hist. Stirp. Helv. n.* 671.

[d] The odour of the green leaves drives away mice from granaries; and the Silesians strew these leaves where their pigs lie, under a persuasion that they prevent some of the diseases to which these animals are liable.

Rhus Coriaria

Published July 1st 1789

RHUS CORIARIA. ELM-LEAVED SUMACH.

SYNONYMA. Sumach. *Pharm. Dale.* 314. *Alston. ii.* 370. *Lewis.* 630. *Ed. New Dispens.* 292. *Bergius.* 237. *Murray. iv.* 25. Rhus folio ulmi. *Bauh. Pin.* 414. Rhus Coriaria. *Ger. Emac.* 1474. Sumach sive Rhus obsoniorum & coriariorum. *Park. Theat.* 1450. Per *Græcis. Ic. Du Hamel, Traité des arbres. vol. i. p.* 218. *tab.* 52.

Pentandria Trigynia. *Lin. Gen. Plant.* 369.

Gen. Ch. Cal. 5-partitus. *Petala* 5. *Bacca* 1-sperma.

Sp. Ch. R. foliis pinnatis obtusiusculè serratis ovalibus subtus villosis.

A SMALL tree rising to the height of ten feet, sending off many divaricating branches, and covered with a brown hairy bark. Leaves pinnated, alternate, consisting of several pair of pinnæ, which are ovato-lance-shaped, obtusely serrated, smooth above, hairy beneath, on short footstalks. Common footstalk somewhat winged, and terminated by a single leafit. Flowers often dioicous, numerous, small, white, placed in large branched spikes. Calyx five toothed, erect, persistent, placed below the germen. Corolla of five petals, which are ovate, white, mostly erect. Filaments five, very short. Antheræ small. Germen roundish, about the length of the corolla. Style scarcely visible. Stigmata three, somewhat cordate. Fruit a roundish one-celled red berry, containing a solitary round hard seed.

This species of Sumach is a native of the South of Europe, and appears from the *Catalogus horti Oxoniensis* to have been cultivated in that garden previous to the year 1648, though it is still a scarce plant in this country.

The genus, to which this species belongs, comprehends several species which are known to be extremely poisonous, especially the Rhus Toxicodendron, radicans, and Vernix; but the Coriaria is perfectly innocent, and its berries are in some places used for culinary purposes.

Its medicinal qualities are wholly to be ascribed to its stypticity or astringency; a property which it possesses in a sufficient degree to render it useful in dyeing, and also in tanning of leather, for which it was used in the time of Dioscorides.

Both the leaves and berries have been employed in medicine, but the former are more astringent and tonic, and have been long in common use in various complaints indicating this class of remedies.

The berries, which are red and of a roundish compressed figure, contain a pulpy matter, in which is lodged a brown hard oval seed, manifesting a considerable degree of astringency. The pulp, even when dry, is gratefully acid, and has been discovered to contain an essential salt [a] similar to that of wood-sorrel, or perhaps more nearly allied to crystals of tartar.

An infusion of the dry fruit is not rendered black by a solution of iron; hence it appears to be destitute of astringency: but its acidity is extremely grateful, which has caused the tree to be called by the French le Vinaigrier. Therefore, like many other acid summer fruits, these berries [b] may be advantageously taken to allay febrile heat, and to correct bilious putrescency.

Lately the Rhus Toxicodendron and radicans have been recommended in paralytic affections; the latter by Mons. Fresnoi, and the former by Dr. Alderson, [c] of Hull; but the cases in which these virulent plants were employed are but few and indecisive.

[a] See Trommsdorff in *Act. Mogunt.* 1778-9. *Comment. Chem. p.* 25.

[b] In eastern countries they are commonly used as a pickle.

[c] See *an Essay on the Rhus Toxicodendron.*

Amyris gileadensis.

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AMYRIS GILEADENSIS. BALSAM of GILEAD AMYRIS.

Balsamum Gileadense. *Pharm. Edinb.* Conf. *Bruce's Travels to discover the Source of the Nile. Appendix.* p. 16. *Belon. Observations de plusieures singularitéz trouvées en Grèce-Arabie, &c. Lib.* 2. *cap.* 39. *p.* 110. *Alpinus, in Lib. de plantis Ægypti, p.* 48. *fig. p.* 60. Forskal Flor. Ægyptiaco-Arab. *p.* 79. *Bauh. Pin. p.* 400. *Gerard. Emac. p.* 1528. *Park. Theat. p.* 1528.

Class Octandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 473.

Ess. Gen. Ch. *Cal.* 4-dentatus. *Petala* 4. oblonga. *Stigma* tetragonum. *Bacca* drupacea.

Sp. Ch. A. foliis ternatis integerrimis, pedunculis unifloris lateralibus.

ACCORDING to Mr. Bruce the Balessan or Balm-tree grows to the height of fourteen feet: its branches are numerous, spreading, crooked: the wood is white, soft, and covered with a smooth ash-coloured bark: the leaves are small, few, commonly consisting of one pair of pinnæ, with an odd one at the top: the pinnæ are sessile, inversely ovate, entire, veined, and of a bright green colour: the flowers are scattered upon the branches, and are of a white colour: the calyx is permanent, and divided at the brim into four small pointed teeth: the petals are four, oblong, concave, patent, white: the filaments are eight, tapering, erect, and terminated by oblong antheræ: the germen is egg-shaped, and placed above the insertion of the corolla: the style is thick, of the length of the filaments, and terminated by a quadrangular stigma: the fruit is of the drupaceous kind, roundish, opening by four valves, and containing a smooth nut.

Mr. Bruce informs us, that Balm-tree is a native of Abyssinia, growing among the myrrh-trees behind Azab, all along the coast, to the Straits of Babelmandeb; and that it was early transplanted into the South of Arabia, and into Judea 1000 years before the Queen of Saba, who, according to Josephus, gave this tree, among other presents, to king Solomon.

Theophrastus, Dioscorides, Pliny, and even the Arabian physicians, supposed this Balsam to be the produce of Judea only; and hence it seems to have received the name of Balsamum Judaicum, or Balm of Gilead. Forskal, who first discovered this tree to belong to the genus Amyris, transmitted a branch of it to Linnæus, which on being broken smelled strongly of the Balsam; the leaves were all ternate, like those of the annexed figure, which corresponds exactly with the specimen in the possession of Sir Joseph Banks.

Besides this tree, which was found at Gidda, another was observed at Yemen, differing only from that found at Gidda, in having pinnated leaves. The former was first described by Linnæus in his Mantissa, under the name A. Gileadensis, the latter under that of A. Opobalsamum; the name which he has adopted in his Materia Medica.

Whether these two species, the difference of which is supposed to consist merely in the number of their foliola, are really the same or not, we cannot undertake to determine; but judging from analogy we should decide in the affirmative; for even in the figure of this tree, given by Alpinus, to which Linnæus refers the A. Opobalsamum, the number of the leafits varies much, being five, seven, and sometimes three; and in that published by Mr. Bruce, the larger leaves consist of five leafits, but the smaller only of three.

The description of the Balsam of Mecca-tree, lately given by Gleditsch, differs from that of all other writers: he removes it from the genus Amyris, as not having the characters of that family;[a] we shall therefore leave this author without making any further remark.

[a] See *Schrift. d. Berlin. Gesellschaft Naturforsch. Freunde. vol.* 3. *p.* 103.

This Balsam, which has been received in the different Pharmacopœias under the names of Balsamum de Mecca, Opobalsamum, Balsamum verum, and Balsamum Gileadense, issues spontaneously from the bark of the tree; but is more commonly obtained by incisions: the Xylobalsamum, as the name imports, is prepared from the wood, and the Carpobalsamum from the fruit. The Balsam now imported into Europe is reported to be principally collected between Mecca and Medina. The Bark, Mr. Bruce says, "is cut by an axe,[b] when the juice is in its strongest circulation "in July, August, and the beginning of September. It is then "received into a small earthen bottle, and every day's produce "gathered and poured into a larger, which is kept closely corked. "The Opobalsamum, or juice flowing from the Balsam-tree, at "first when it is received into the bottle or vase from the wound "from whence it issues, is of a light yellow colour, apparently "turbid, in which there is a whitish cast, which I apprehend are "the globules of air that pervade the whole of it in its first state "of fermentation; it then appears very light upon shaking. As "it settles and cools, it turns clear, and loses that milkiness which "it first had when flowing from the tree into the bottle. It then "has the colour of honey, and appears more fixed and heavy than "at first. After being kept for years, it grows of a much deeper "yellow, and of the colour of gold. I have some of it which "I got from the Cadi of Medina in 1768; it is now still deeper "in colour, full as much so as the yellowest honey. It is perfectly "fluid, and has lost very little either of its taste, smell, or weight. "The smell at first is violent, and strongly pungent, giving a "sensation to the brain like that of volatile salts when rashly "drawn up by an incautious person. This lasts in proportion "to its freshness, for, being neglected and the bottle uncorked, "it quickly loses this quality, as it probably will at last by age, "whatever care is taken of it."[c]

[b] Tacitus says this tree was so averse to iron, that it trembled upon a knife being laid near it: and some pretend that the incisions should be made with ivory, shells, glass, or stone.

[c] *L. c.*

The Balsam which one tree yields is very small,* and the collecting of it is tedious and troublesome: hence it is so very scarce that the genuine Balsam is rarely if ever exported in a commercial way.[d] The best Balsam, according to Alpinus, is at first turbid and white, of a very strong pungent smell, like that of turpentine, but much sweeter and more fragrant, and of a bitter, acrid, astringent taste: on being kept for some time, it becomes thin, limpid, light, of a greenish hue, and then of a gold yellow, after which it grows thick like turpentine, and loses much of its fragrance. Some compare the smell of this Balsam to that of citrons; others to that of a mixture of rosemary and sage flowers. The chief mark of its goodness is said to be founded on this, that when dropped on water it spreads itself all over the surface, forming a thin pellicle, tough enough to be taken up upon the point of a pin, and at the same time impregnating the water with its smell and flavour.[e]

It appears on scripture authority, that the great value and use of this drug remounts to very early ages,[f] as it seems coeval with the India trade for pepper. To enumerate all the virtues and medicinal uses still attributed to it by eastern nations, would be outraging the bounds of all rational credibility: but they who are desirous of this information may be gratified by consulting Alpinus. European physicians consider it to be not essentially different from other resinous fluids, or turpentines, especially as

* Three or four drops a day are said to be the usual quantity obtained from one branch; nor does the most fertile tree ever yield more than sixty in that time. See *Gerlachs Tagebuch s. Reise nach Constantinopel. p.* 227.

[d] Lady Mary Wortley Montague says, that even at Constantinople it was not without difficulty procured. See *Letters, vol. ii. p.* 116.

[e] This test of the goodness of the Balsam, which is mentioned by Alston, is not to be depended upon, as several resinous fluids, and even oil of juniper, produce the same phœnomena.

[f] Balm and Myrrh were carried by the Ishmaelites to Egypt. See *Gen. c. xxxvii. v.* 25.

Tolusfera Balsamum

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we find it imported here: it is therefore generally believed, that the Canada and Copaiva balsams will answer every purpose for which it can be employed. In Turkey it is not only in high esteem as a medicine, but also as an odoriferous unguent and cosmetic: its effects with respect to its last mentioned use seem to depend merely on its stimulating the skin; for it is observed by Lady Mary Wortley Montague, that the day after she had used the Balsam, her face became red and swollen; an inconvenience which she suffered for three days.[s]

[s] See. *l. c.*

The high opinion entertained of its virtues we learn from the following verse in Jeremiah: "Is there no balm in Gilead? is there no physician there? why then is not the health of the daughter of my people recovered?" ch. viii. ver. 22.

TOLUIFERA BALSAMUM. BALSAM OF TOLU TREE.

Balsamum Tolutanum. *Pharm. Lond. & Edinb.*

SYNONYMA. Balsamum Tolutanum, foliis ceratiæ similibus. *Bauh. Pin. p.* 401. Balsamum de Tolu. *Monard. Clus. Exot. p.* 304. *Park. Theat. p.* 1570. *J. Bauh. Hist. vol. i. p.* 296. *Raii. Hist. p.* 1758.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 524.

Ess. Gen. Ch. *Cal.* 5-dentatus, campanulatus. *Petala* 5, infimo maximo, obcordato. *Stylus* nullus.

THIS tree grows to a considerable height; it sends off numerous large branches, and is covered with rough thick greyish bark: the leaves are elliptical or ovate, entire, pointed, alternate, of a light green colour, and stand upon short strong footstalks: the flowers

are numerous, and produced in lateral racemi: the calyx is bell-shaped, divided at the brim into five teeth, which are nearly equal, but one is projected to a greater distance than the others: the petals are inserted into the receptacle, and are five in number, of which four are equal, linear, and a little longer than the calyx; the fifth is much the largest, inversely heart-shaped, and its *unguis* is of the length of the calyx: the ten filaments are very short, and furnished with long antheræ: the germen is oblong: there is no style: the stigma is pointed: the fruit is a round berry.

Through the favour of Sir Joseph Banks we have been enabled to present our readers with the annexed figure of this tree, which has hitherto been little known, and but imperfectly described.[a] It grows in Spanish America, in the Province of Tolu, behind Carthagena, whence we are supplied with the Balsam, which is brought to us in little gourd-shells. This Balsam is obtained by making incisions in the bark of the tree, and is collected into spoons, which are made of black wax, from which it is poured into proper vessels.*

This Balsam is of a reddish yellow colour, transparent, in consistence thick and tenacious: by age it grows so hard and brittle, that it may be rubbed into a powder between the finger and thumb.[b] Its smell is extremely fragrant, somewhat resembling that of lemons; its taste is warm and sweetish, and on being chewed it adheres to the teeth. Thrown into the fire it immediately liquifies, takes flame, and disperses its agreeable odour. Though it does not dissolve in water, yet if boiled in it for two or three hours, in a covered vessel, the water receives its odoriferous smell: water also suffers a similar impregnation from the Balsam by distillation.

[a] We regret that the flowers were not sufficiently advanced for us to represent the interior parts of inflorescence. A piece of the bark, which tasted strongly of the Balsam, accompanies the specimen in Sir Joseph's Herbarium.

* *Monard. l. c.*

[b] See Murray, *App. Med vol. vi. p.* 118.

Cestrum aurantiacum.

Phillips

With the assistance of mucilage it unites with water, so as to form a milky solution. It dissolves entirely in spirit of wine, and easily mixes with distilled oils, but less easily with those of the expressed kind. Distilled without addition, it produces not only an empyreumatic oil, of a pale dark colour, but sometimes a small portion of a saline matter, similar to that of the flowers of benzoine.

This Balsam possesses the same general virtues with the former, and that of Peru; it is however less heating and stimulating, and may therefore be employed with more safety. It has been chiefly used as a pectoral, and is said to be an efficacious corroborant in gleets and seminal weaknesses. It is directed by the Pharmacopœias in the syrupus tolutanus, tinctura tolutana, & syrupus balsamicus.

COPAIFERA OFFICINALIS. BALSAM of COPAIVA TREE.

Balsamum Copaiva. *Pharm. Lond.* Balsamum Copaibæ. *Pharm. Ed.*

SYNONYMA. Coapoiba. *Marcgr. bras.* 130. Copaiba. *Pis. Hist. Nat. et Med. p.* 118. Arbre de Copau. *Labat, Nouv. voyage aux Isles de L'Amerique, tom. ii. p.* 365. Le Copahu. *Barrere Hist. Nat. de la France equinoxiale. p.* 40. Arbor baccifera Brasilien. &c. *Raii Hist. p.* 1759. Copaifera officinalis. *Jacquin Select. Stirp. Americ. p.* 133. *tab.* 86. *ed. pict. p.* 67. *tab.* 128.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 542.

Ess. Gen. Ch. Cal. 0. *Petala* 4. *Legum.* ovatum. *Sem.* 1, arillo baccato.

THIS tree grows to a considerable height: it is covered with rough brown bark, and divides into numerous branches: the leaves are pinnated, large, consisting of four pair of pinnæ, which are alternate, except the undermost, which is nearly opposite; they are ovate, pointed, somewhat narrowed on one side, and placed upon short footstalks: the flowers are white, and produced in terminal branched spikes: there is no calyx: the petals are four, oblong, acute, concave, spreading: the filaments are ten, slender, incurved, somewhat longer than the corolla, and crowned with antheræ, which are oblong, and incumbent: the germen is roundish, compressed, and stands upon a short pedicle: the style is filiform, incurved, about the length of the filaments, and furnished with an obtuse stigma: the fruit is an oval pod, of two valves, pointed with part of the remaining style: it contains one egg-shaped seed, involved in a berried arillus.

This tall and elegant tree is a native of South America, particularly Brazil, and some of the neighbouring islands; and it is said to have been discovered growing in Terra Firma in large woods with those trees which afford several of our officinal Balsams, especially that of Tolu and Peru. The resinous juice, called Balsam of Copaiba, is obtained from this tree by making incisions near the base of its trunk, extending not only through the bark but into the substance of the wood, when the balsam immediately issues, and at the proper season flows in such abundance, that sometimes in three hours twelve pounds have been procured. The older trees afford the best balsam, and yield it two or three times in the same year. The Balsam supplied by the young and vigorous trees, which abound with the most juice, is crude and watery, and is therefore accounted less valuable. While flowing from the tree this balsam is a colourless fluid; in time however it acquires a yellowish tinge, and the consistence of oil; but though by age it has been found thick like honey, yet it never became solid like other resinous fluids.

Genuine * Balsam of Copaiba has a moderately agreeable smell, and a bitterish biting taste, of considerable duration in the mouth: it dissolves entirely in rectified spirit, especially if the menstruum be previously alkalized; when the solution has a very fragrant smell. Distilled with water it yields nearly half its weight of a limpid essential oil; and in a strong heat, without addition, a blue oil.

This, like most other balsams, is nearly allied to the turpentines. It was formerly thought to be an efficacious remedy in various disorders, as pulmonary consumptions, coughs, scorbutic diseases, dropsies, dysenteries, nephritic complaints, internal ulcers, fluor albus, gleets, &c. but though some proofs of its good effects in certain states of many of these diseases may be adduced,[a] yet as it irritates and heats the system to a considerable degree, few cases occur in which this medicine can safely be given, especially in large doses.[b] It determines powerfully to the kidneys, and impregnates the urine with its qualities, and has therefore been supposed peculiarly suited to diseases of the urinary passages, but by stimulating these organs it is apt to produce very mischievous consequences, its use is therefore now principally confined to gleets and fluor albus.

If this medicine can be advantageously administered in pulmonary affections, it must be in the absence of fever, and where the

* "We sometimes find in shops, under the name of Copaiba, a thick, whitish, almost opake Balsam, with a quantity of turbid watery liquor at the bottom. This sort, probably, is either adulterated by the mixture of other substances, or has been extracted, by boiling in water, from the bark or branches of the tree." *Lewis, M. M. p.* 132.

[a] See Fuller, *Pharm. extemp. p.* 275. F. Hoffman, *Obs. Phys. chym. p.* 24. Lentin, *Beobacht. einig. Krankh.* 1774. *p.* 58. Mutis relates, that a woman in Santa Fé, who had been many years affected with a dropsy, in forty days was cured by taking balsam of copaiba, the dose of which she increased to a spoonful night and morning. *Nouvelles de la Republique des lettres et des arts*, 1786. *n.* 33. *p.* 374.

[b] Hoppe has fully set forth its dangerous effects. See D. Fred Wilh. Hoppe, apud Valentini Indiam literatam. p. 624.

excretion from the lungs is unattended with inflammatory congestion.[c] It may be most conveniently taken in the form of an emulsion, into which it may be brought by triturating it with almonds, or rather with a thick mucilage of gum arabic, till they are well incorporated, and then gradually adding a proper quantity of water. The dose of the Balsam should rarely exceed twenty or thirty drops.

[c] Vide Simmons *On the Treatment of Consumptions, p.* 36. *sq.*

Dr. Cullen says, "Whether a certain effect of balsam of copaiba is to be imputed to its laxative quality, I cannot determine, but must observe, that I have learned from an empirical practitioner, that it gives relief in hæmorrhoidal affections; and I have frequently employed it with success, viz. given from twenty to thirty drops twice a day." *Mat. Med. vol. ii. p.* 190.

The medicinal plants of this order not figured in Medical Botany, are,

Systematic Names.	Officinal.	English.
Rhamnus Frangula	Frangula	Berry-bearing Alder.
Rhamnus Zizyphus	Jujuba	Shining-leav'd Rhamnus
Ilex aquifolium	Aquifolium	Common Holly.

Æsculus Hippocastanum

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ORD. XXXVIII. TRIHILATÆ.

From *Tres*, three, and *Hilum*, an external mark or scar on each of the three seeds where they are attached to the fruit.

ÆSCULUS HIPPOCASTANUM. COMMON HORSE CHESNUT.

SYNONYMA. Hippocantanum. *Pharm. Edinb.* Castanea folio multifido. *Bauh. Pin. p.* 419. Castanea equina. *Ger. Emac. p.* 1442. *Park. Theat. p.* 1401. *Raii. Hist. p.* 1683. Hippocastanum. *Hall. Stirp. Helv. n.* 1029. Æ. Hip. *Miller Illust. Hunt. Evel. vol. i. p.* 359.

Class Heptandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 462.

Ess. Gen. Ch. Cal. 1-phyllus, 5-dentatus, ventricosus. *Cor.* 5-petala, inæqualiter colorata, calyci inserta. *Caps.* 3-locularis.

Sp. Ch. Æ. foliolis septenis.

THIS tree frequently grows to a great height,[a] and from the upper part of the trunk usually sends off numerous spreading branches, covered with rough brown bark: the leaves are digitated, composed commonly of seven large lobes, which are long, obversely oval, serrated, ribbed, of a pale green colour, and proceed from a

[a] A Horse Chesnut-tree, above 80 years old, and 50 feet high, still continued in a healthy and growing state. *Samml. d. Berner landwirthschaftl. Gesellsch. vol. ii. p.* 943.

common centre attached to a long footstalk: the flowers terminate the branches in large conical spikes, and make a beautiful appearance: the calyx is tubular, and divided at the brim into five short blunt segments: the corolla consists of five petals, which are roundish, spreading, undulated at the edges, inserted in the calyx by narrow claws, and of a fine white colour, irregularly spotted with red and yellow: the filaments are seven, tapering, about the length of the corolla, bending at the top, and supplied with pointed antheræ: the germen is round, supporting a short style, furnished with a pointed stigma: the capsule is round, tough, fleshy, beset with spines, divided into three valves, and containing two[b] roundish compressed seeds. It is a native of the northern parts of Asia, and flowers in April and May.

Though the Castanea was well known to the ancients, yet Matthiolus seems to be the first author who describes the Horse Chesnut;[c] which was brought into Europe about the middle of the sixteenth century, and was so scarce in the time of Clusius, that there was then but one tree known at Vienna; which being too young to bear fruit,[d] nuts were obtained from Constantinople in 1588; after which this tree was very generally propagated. It was cultivated in England by Mr. John Tradescant in 1633, and is now very common in this country. The wood is white, soft, soon decays, and is therefore of little value. The fruit in appearance resembles that of the Spanish Chesnut, and is eaten by sheep, goats, deer, oxen, and horses.[e] It contains much farinaceous matter,

[b] The ripe capsule seldom contains more than one, but on being examined in its embryo state, two are constantly found. *Lin. Gen. Plant.*

[c] See his *Epist. medicinal. op. omn. p.* 101. 125. Afterwards in *Comm. in Dioscorid.*

[d] *Murray, App. Med. vol. iv. p.* 63.

[e] Horses are said to eat this fruit greedily, and by it to have been cured of coughs and pulmonary disorders, and hence the name Horse Chesnut. For the purpose of fattening cattle, and particularly sheep, it has been thought necessary to macerate the nuts in caustic alkali, in order to take off the bitterness, afterwards

which by undergoing a proper process, so as to divest it of its bitterness and acrimony, probably might afford a kind of bread: starch has been made of it, and found to be very good:[f] it appears also to possess a saponaceous quality, as it is used, particularly in France and Switzerland, for the purpose of cleaning woollens, and in washing and bleaching linens.[g]

With a view to its errhine power the Edinburgh College has introduced it into the Materia Medica; as a small portion of the powder, snuffed up the nostrils, readily excites sneezing; even the infusion or decoction of this fruit produces this effect; it has therefore been recommended for the purpose of producing a discharge from the nose, which, in some complaints of the head and eyes, is found to be of considerable benefit.

On the Continent the bark of the Horse Chesnut-tree is held in great estimation as a febrifuge, and upon the credit of several respectable authors appears to be a medicine of great efficacy. Zannichelli,[h] at Venice, was the first who published its successful use in various cases of intermittents; since which its good effects have been confirmed by Leidenfrost, Peipers,[i] Junghanss,[k] Coste, and Willemet,[l] Sabarot De La Varniere,[m] Turra,[n] Buchholz,[o] and

to wash them in water, and then boil them to a paste. (See Bon *Mem. de l'Acad.* 1720. p. 460.) Lime water was also found to answer. (See *Hist. de la Société R. de Montpell. tom. ii. p.* 57.) But if the nuts are cut and mixed with oats or bran, this purpose may be effected with less trouble. *Hannov. Mag.* 1770. *p.* 226.

[f] Parmentier, *Recherches sur les vegetaux nourissans, p.* 176. 218.

[g] Marcandier, *Traité de Chanvre, Leipziger Intelligenzblatt.* 1764. *p.* 46. *De re rustica,* or the *Repository for papers in Agriculture, vol. ii. p.* 75. *sq. &c.*

[h] J. Jac. Zannichelli *Lettera intorno alle Facolta dell' Ippocastano, &c.*

[i] Leidenfrost in Peipers *Diss. de cortice Hippoc. Duisburg.* 1763.

[k] *Diss. de nucis vomicæ et corticis Hippocast. virtute med.* 1770. *p.* 25. *sq.*

[l] *Essais sur les plantes indigenes. p.* 57.

[m] *Journ. de Medec. tom.* 47. *p.* 324.

[n] *Della febbrifuga Facolta dell' Ippocastano, in Vicenza.* 1780.

[o] *Uber Antisept. Subst.* 1776.

others: from whom it appears, that this bark may be substituted for the Peruvian bark in every case in which the latter is indicated, and with equal, if not superior, advantage.

The Bark, intended for medicinal use, is to be taken from those branches, which are neither very old nor very young, and to be exhibited under similar forms and doses, as directed with respect to the cortex peruvianus. It rarely disagrees with the stomach; but its astringent effects generally require the occasional administration of a laxative.

See *Murray, l. c.*

TROPÆOLUM MAJUS. GREATER INDIAN CRESS, Or NASTURTIUM.

SYNONYMA. Nasturtium indicum. *Pharm. Dale.* 134. *Berg.* 293. *Murray. iv.* 77. *Gerard. Emac.* 252. *Park. Parad.* 280. *Ray. Hist.* 487. Nasturtium indicum majus. *Bauh. Pin.* 306. Viola indica scandens, Nasturtii sapore & odore, flore flavo. *Herm. Hort. Lugd. Bat.* 628. *Ic. Curt. Bot. Magaz.* 23.

Octandria Monogynia. *Lin. Gen. Plant.* 466.

Gen. Ch. *Cal.* 1-phyllus, calcaratus. *Petala* 5, inæqualia. *Bacca* 3, siccæ.

Sp. Ch. T. foliis peltatis subquinquelobis, petalis obtusis.

ROOT annual. Stalk trailing, climbing, round, branched, smooth, succulent, several feet in length. Leaves roundish, marked by several radiated ribs, entire, obscurely five-lobed, standing singly upon long bending footstalks, which are attached to the centre of each leaf. Flowers large, solitary, of a tawny yellow, on long peduncles. Calyx yellowish, large, forming a horn-like nectarium

Tropaeolum majus

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behind, divided at the mouth into five irregular segments, which are acute, erect, striated. Corolla consisting of five petals, roundish, of which the two uppermost are bent backwards, marked with black lines at the base, and inserted into the segments of the calyx: the three undermost have long claws or ungues, and are bearded at the base. Filaments eight, yellow, tapering, spreading. Antheræ yellow, four-celled, ovate. Germen triangular. Style simple, erect, yellow. Stigma trifid, acute. Fruit three adhering berries, compact, externally striated, containing three irregular shaped seeds. Its flowers appear from June till October.

This plant is a native of Peru; it was first brought to France in 1684, and there called Le grande Capucine; two years afterwards it was introduced into this country by Dr. Lumley Lloyd,[a] and since that time has been constantly cultivated in British gardens.

In its recent state this plant, and more especially its flowers, have a smell and taste resembling those of water cress; and the leaves, on being bruised in a mortar, emit a pungent odour, somewhat like that of horse radish. By distillation with water they impregnate the fluid in a considerable degree with the smell and flavour of the plant.[b] Hence the antiscorbutic character of the Nasturtium seems to be well founded, at least as far as we are able to judge from its sensible qualities: therefore in all those cases where the warm antiscorbutic vegetables are recommended, this plant may be occasionally adopted as a pleasant and effectual variety.

Patients, to whom the nauseous taste of scurvy-grass is intolerable, may find a grateful substitute in the Nasturtium.

The flowers are frequently used in sallads, and the capsules are by many highly esteemed as a pickle.

The flowers, in the warm summer months, about the time of sun-set, have been observed to emit sparks like those of the electrical kind.[c]

[a] Vide *Hort. Kew.* [b] *Cartheus. Diss. de Cardam. p.* 9.

[c] *Vet. Acad. Handl.* 1762. *p.* 284.

BERBERIS VULGARIS. COMMON BARBERRY.

SYNONYMA. Berberis. *Pharm. Dale.* 318. *Geoff. iii.* 172. *Alston. ii.* 255. *Lewis.* 144. *Edinb. New Disp.* 146. *Bergius.* 276. *Murr. iv.* 79. *Park. Theat.* 561. Berberis dumetorum. *Bauh. Pin.* 454. *Ray. Hist.* 1605. *Synop.* 465. *Gerard. Emac.* 1325. Berberis vulgaris. *Huds. Flor. Ang.* 137. *Withering. Bot. Arr.* 366. *Ic. Eng. Bot.* 49.

Hexandria Monogynia. *Lin. Gen. Plant.* 442.

Gen. Ch. *Cal.* 6-phyllus. *Petala* 6: ad ungues glandulis 2. *Stylus.* 0. *Bacca* 2-sperma.

Sp. Ch. B. pedunculis racemosis: spinis triplicibus.

A LARGE spreading shrub, furnished with spines, covered with a light grey bark. Leaves inversely ovate, blunt, entire, smooth, minutely serrated, four or five standing together upon simple footstalks. Flowers yellow, in slender pendent racemi. Calyx composed of six leafits, which are ovate, concave, coloured, deciduous, alternately larger and smaller. Corolla consists of six petals, which are roundish, concave, and at the base each furnished with two small oblong orange-coloured corpuscles or nectaries. Filaments six, erect, compressed, tapering, shorter than the petals, and terminated by double antheræ, which adhere to their sides. Germen cylindrical, of the length of the filaments. Style none. Stigma circular, flat, encompassed by a sharp border. Fruit a cylindrical one-celled red berry, containing two oblong seeds.

It is a native of England, growing in woods and hedges, and flowering in June. In shrubberies, and in gardens where it is very generally cultivated, its flowers usually appear much sooner.

Berberis vulgaris

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It has been discovered, that the filaments of this shrub possess a remarkable degree of irritability; for on being touched near the base with the point of a pin, a sudden contraction is produced, which may be repeated several times. This contraction of the stamina is evidently for the purpose of throwing the pollen upon the stigma, and is effected by means of insects passing over the bottom of the filaments, which is the part in which their sensibility resides.[a]

Another peculiarity ascribed to this shrub is, that ears of corn growing near it constantly prove abortive, and that it extends this sterile influence over them to the distance of three or four hundred yards across a field;[b] but Mons. Broussonet, a celebrated French naturalist, has refuted this very extraordinary though prevalent opinion.

The fruit or berries, which are gratefully acid,[c] and moderately restringent, are said to be of great use in bilious fluxes, and in all cases where heat, acrimony, and putridity of the humours prevail. On the authority of Alpinus[d] we are informed, that the Egyptians employ them in pestilential fevers and fluxes, with great success; and Simon Paulli relates,[e] that he was cured of a malignant fever, accompanied with a bilious diarrhœa, by using these berries conformably to the Egyptian practice, viz. macerating the fruit for a day and a night in twelve times its quantity of water, with the

[a] See Mr. Whatley's remark from Dr. Sims, in *Bot. Arr. p.* 366. and Dr. Smith's paper in the *Phil. Trans. for* 1788. *p.* 158.

[b] Dr. Withering says, "this shrub should never be permitted to grow in corn lands, for the ears of wheat that grow near it never fill, and its influence in this respect has been known to extend as far as three or four hundred yards." *l. c.*

[c] Retzius says that it approaches very nearly to that of Tamarinds. *Vet. Acad. Handl.* 1776. p. 135. Scheele obtained from it a considerable quantity of the acid of sugar. *Vet. Acad. Handl.* 1785. p. 17.

[d] *P. Alpinus. Med. Ægypt. L.* 4. *c* 1.

[e] Vide *Quadrip. Bot.* 118.

addition of a little fennel seed; the liquor was then strained, sweetened, and used as a common drink.

That these berries are well calculated to allay heat and thirst, and to correct a putrid tendency in the fluids, will be readily admitted; but in this respect they seem to possess no peculiar advantage over most of the other acid fruits: hence the Colleges of London and Edinburgh have expunged this fruit from the Materia Medica, and retained that of the currant. Barberries however are much more acid, insomuch that they cannot be eaten without the addition of sugar, but when boiled with this, they form a most agreeable rob or jelly; they are also much liked as a sweet-meat, and as a pickle. The bark is said to be purgative,[f] and Ray experienced its good effects in jaundice.

[f] "The roots, boiled in lye, dye wool yellow. In Poland they dye leather of a most beautiful yellow with the bark of the root. The inner bark of the stems dyes linen of a fine yellow with the assistance of allum." *With. l. c.*

SWIETENIA MAHAGONI. MAHOGANY TREE.

(Swieteniæ Cortex. *Pharm. Murray. App. Med. vi.* 132.)

SYNONYMA. Swietenia foliis abrupte pinnatis, pinnulis ovato-lanceolatis obliquis, &c. *Cavanill. Diss. Bot. 7. p. 365. t.* 209.
Cedrela foliis pinnatis, floribus sparsis, ligno graviori. *Browne. Jam. p.* 158. Arbor foliis pinnatis, nullo impari alam claudente, nervo ad latus unum excurrente, &c. *Catesby. Carol. vol.* 2. *p.* 81.
Conf. *Jacquin. Select. Stirp. Amer. p.* 127.

Decandria Monogynia. *Lin. Gen. Plant.* 521.

Ess. Gen. Ch. *Cal.* 5-fidus. *Petala* 5. *Nectarium* cylindricum, ore antheras gerens. *Caps.* 5-locularis, lignosa, basi dehiscens. *Sem.* imbricata, alata.

S. Mahagoni. *Sp. Pl.* 548.

Swietenia . Mahagoni

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A VERY large tree, which, by sending off numerous spreading branches, makes a beautiful appearance. Wood hard, compact, of a brownish red, and from its general use well known in England. The bark is rough, scaly, and brown, but upon the young branches grey, and much smoother. Leaves pinnated, alternate, consisting of three, four, or five pairs of pinnulæ, which are entire, ovately lance-shaped, acute, oblique, reclining, on short footstalks. Flowers numerous, small, whitish, in axillary open spikes. Calyx small, bell-shaped, deciduous, cut into five segments. Petals five, inversely ovate, concave, obtuse, spreading. Nectarium monophyllous, cylindrical, erect, of the length of the corolla, divided at the brim into ten pointed teeth. Filaments ten, scarcely visible, inserted beneath the teeth of the nectarium. Antheræ oblong, erect. Germen ovate. Style tapering, erect, of the length of the nectarium. Stigma large, depressed at the top. Capsule ovate, large, obtuse, five-celled, five-valved; valves woody, thick, opening at the base. Seeds numerous, compressed, imbricated, furnished with oblong membranous wings. Receptacle of the seed large, oblong, obtuse, pentagonal.

It is a native of the West Indies, and was first cultivated in England in 1739 by Mr. P. Miller, who then considered it as a species of Cedrus; but Jacquin discovered the Mahogany to be a distinct genus, and called it Swietenia, in honour of Gerard L. B. a Swieten, whose influence with the House of Austria caused the botanic garden at Vienna to be founded.

For the botanical specimen of the tree figured in the annexed plate, we are obliged to Sir Joseph Banks.

The bark of the Swietenia has lately been found, in a considerable degree, to emulate that of the cinchona in its medicinal characters; we have therefore followed the late professor Murray in considering it as an article of the Materia Medica.

This bark, according to Dr. Wright, is " rough, scaly, and brown," as found upon the trunk of a tree, but " that on the

boughs and twigs is grey and smoother."[a] That intended for medicinal use should be the growth of the trunk, or rather of the larger branches, and is brought here in flattish or somewhat convex pieces, about a foot in length: its epidermis is rough, and immediately under it a thick spongy dark extraneous coat is observed; the inner efficient part of the bark is of a lamellated texture, tough, and of a deep reddish brown;[b] its taste is astringent and bitter, resembling the Peruvian bark, but, in the opinion of Murray, more bitter.

On the testimony of Wright, Lind, and several other respectable authorities, this bark has been found to answer the general purposes of that of the cinchona, and like it also the different species of the tree agree in affording barks possessing in common a certain share of febrifuge power, though in different degrees, and somewhat variable in their sensible qualities. Thus of the nine species of cinchona, lately described by Vahl, the febrifuge character pervades the whole, at least as far as experiments have been made:[c] and Mr. Roxburgh, botanist to the East India Company, has discovered a new species of Swietenia, or Mahogany, the bark of which promises, from his account of it, to be a more efficacious medicine than that here described. This new species of mahogany is called by Mr. Roxburgh Swietenia febrifuga;[d]

[a] See London Medical Journal, vol. 8. p. 286.

[b] This description nearly agrees with that of Murray; but I have found the bark to vary considerably in its appearance, and in its taste.

[c] *Yellow Peruvian bark*, the produce of a species of cinchona, of which we find no botanical account, has been lately brought to London. I have used it at the Small-pox Hospital with more advantage than I ever experienced from the best common bark. Its intense bitterness is the leading character in its sapidity.

[d] This and several other East India plants have been engraved at the expense of the East India Company, but have not yet been published; it differs from the common Mahogany, in having its flowers in large terminal compound spikes, and in its foliola being oblong, and very obtuse.

and from numerous experiments which he made from its bark, he draws the following conclusions:[e]

1. " The active parts of the bark of Swietenia febrifuga are much more solubile than those of Peruvian bark, particularly in watery menstruums."

2. " That it contains a much larger proportion of active (bitter and astringent) powers than Peruvian bark."

3. " The watery preparations of this bark remain good much longer than similar preparations of Peruvian bark."

4. " The spirituous and watery preparations bear being mixed in any proportion without decomposition."

5. " That this bark in powder, and its preparations, are much more antiseptic than Peruvian bark, or similar preparations of it."

He adds, " From the evident qualities of this new bark, and from the successful experience I have had of it in intermittent fevers, &c. I have every reason to imagine it will prove equal, if not superior, to the Peruvian bark for every purpose where that medicine is used.

Having before given an account of Æsculus Hippocastanum, or Horse-chesnut, the only remaining plant referred to the Materia Medica in the order Trihilatæ is the Trapa natans, called in the Pharmacopœias Tribulus aquaticus, or Nux aquatica (floating water caltrops.) Its fruit or nut is of a quadrangular form, and contains a farinaceous kernel, which was formerly in estimation for its supposed astringent qualities.

[e] See " a botanical description of a new species of Swietenia, (Mahogany) with experiments and observations on the bark thereof, addressed to the Honourable the Court of Directors of the United East India Company, by William Roxburgh."

ORD. XXXIX. TRICOCCÆ.

(From τρεις three κοκκος a grain)

Plants with a single three-cornered capsule having the cells each containing one seed.

RICINUS COMMUNIS. COMMON PALMA CHRISTI.

SYNONYMA. Ricinus. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 496. Ricinus vulgaris. *Bauh. Pin.* 432. *J. Bauh. Hist. iii. p.* 642. Ricinus sive Cataputia major vulgatior. *Park. Theat. p.* 182. *Raii Hist. p.* 166. Ricinus 1. Fruticosus assurgens foliis majoribus peltato-lobatis, lobis serratis acutis. *Browne's Jam. p.* 350. Ricinus Americanus fructu racemoso hispido, &c. *Sloane's Cat.* 38. The Oil nut tree. *Long's Jam. v. iii. p.* 712. Ricinus foliis peltatis inæqualiter serratis, capsulis hispidis. *Miller, Figures of Plants, tab.* 219. In horto botanico Gottingensi tres exstant varietates: α, *glauca,* caule petiolis costisque foliorum stipulis pedunculis capsulisque *pallide rubris.* Ricinus ruber *Rumph. Herb. Amb. tom. iv. p.* 79; β, *nitens,* caule petiolis costis foliorum ceterisque partibus et summis foliis *sanguineis.* Ricinus lucidus Jacquin. *Misc. Austr. vol. ii. p.* 360. et *Icon. rarior. tab.* 27. ut puto; γ, *glauca* totaque *viridis* præter stylos rubicundos. Ricinus albus *Rumph.* l. c. *p.* 92. Avanacœ s. Citavanacu. *Hort. Malab. tom.* 2. *p.* 57. *tab.* 32. Vide *Murr. App. Med. v. iv. p.* 195.

Published by W. Phillips, Lichfield.

Class Monoecia. *Ord.* Monadelphia. *Lin. Gen. Plant.* 1085.

Ess. Gen. Ch. *Masc. Cal.* 5-partitus. *Cor.* 0. *Stam.* numerosa. *Fem. Cal.* 3-partitus. *Cor.* 0. *Styli* 3, bifidi. *Caps.* 3 locul. *Sem.* 1.

Sp. Ch. R. foliis peltatis subpalmatis serratis.

THE root is biennial, long, thick, whitish, and beset with many small fibres: the stem is round, thick, jointed, channelled, glaucous, of a purplish red colour towards the top, and rises luxuriantly six or eight feet in height:‡ the leaves are large, and deeply divided into seven lobes or pointed serrated segments, of a bluish green colour: the footstalks are long, tapering, purplish, and inserted in the disc of the leaf (peltated): the flowers are male and female on the same plant, and produced in a clustered terminal spike: the *male flowers* are without a corolla, and consist of a calyx, divided into five oval pointed purplish segments, enclosing numerous long stamina, which unite at the base: the *female flowers* occupy the upper part of the spike, and have the calyx cut into three narrow segments, of a reddish colour: the styles are three, slender, and forked at the apex: the capsule is a large three-celled nut, covered with tough spines, and contains three flattish oblong seeds,‖ which are forced out on the bursting of the capsule. It is a native of both the Indies, and flowers in July and August.

‡ Long says that in Jamaica it grows with surprising rapidity to the height of fifteen or sixteen feet. l. c.

‖ Hujus cuilibet loculo inest nux ovata, utrinque compressa, interiori præcipue superficie, quæ et linea longitudinali distinguitur, magnitudine seminis Phaseoli minoris flore phœniceo, hilo prominente sursum notato, cui callus ante adhæserat. Cortex ex bruno luteoque variegatus, fragilis, cingit nucleum album, vestitum cuticula tenella concolore—Figuræ seminis cum insecto Ricino (Acaro Ricino L.) bobus & canibus infesto, similitudo ansam denominationis totius plantæ dedit. *Murr. Ap. Med. vol. iv. p.* 197.

This plant appears to be the Κικι, or Κροτων of Dioscorides,[a] who observes that the seeds are powerfully cathartic;† it is also mentioned by Ætius, Paulus Ægineta, and Pliny. The Ricinus was first cultivated in England in the time of Turner,[b] (1562) and is now annually reared in many gardens in the neighbourhood of London; and in that of Dr. Saunders,[c] at Highbury, the plant from which the present figure was taken, it grew to a state of great perfection. An oil extracted from the seeds [d] of this plant, and known by the name of oleum ricini, Palma Christi, or castor oil, is the drug to which the pharmacopœias refer, and which has lately come into frequent use as a quick, but gentle, purgative. The London College direct this oil to be expressed from the seeds in the same

[a] *Mat. Med. lib. 4. cap.* 164.

† Their violent and irritating effects in this way are noticed by almost all the Materia Medica writers, and seem to be confirmed by Thunberg, (*Diss. de Medicina Africanorum, p.* 4. and *Browne, l. c.*) This acrimony however appears from later experiments to be owing to the membranes which invest the kernel, (*vide Heyer in Crells n. chem. Entdeck. P.* 2. *p.* 47. Also *Glendenberg in ejusd. chem. Annal.* 1785. *vol. ii. p.* 34.) Bergius says, "Semen unicum Ricini vulgaris, tempore vespertino, a viro sano & vegeto masticatum & deglutitum, sapore fuit amygdalarum, sed sensationem mordentem in faucibus reliquit. Per totam noctem tranquille dormivit hic vir; sed sequente die mane expergefactus, emesi violentia correptus fuit atque per totam diem sustinuit nisus alternantes vomituritionis & purgationis alvi, tametsi parum dejiciebat. Eadem vice nobilis matrona teneræ constitutionis, semen unicum pariter comedit, sed prius testam membranamque obvelantem sedulo separavit abjecitque; & nullam noxam inde sensit." *M. M. p.* 774.

[b] *Vide Hort. Kew.*

[c] From the number of seeds which the Doctor has lately procured from different parts of the globe, and his scientific and solicitous care in their cultivation, we are induced to hope, that Medical Botany, under such auspices, will eventually receive considerable illustration.

[d] Where the oil is rejected, the seeds may be carefullly separated from their shells and the inner white membrane, and formed into an emulsion, and given as an agreeable substitute for the oil.

way as that of almonds,[e] and without the assistance of heat, by which the oil would seem to be obtained in the purest state: however, we have some reason to believe that this method is seldom practised, and that the oil usually employed here is imported from the West Indies, where it is commonly prepared in the following manner: "The seeds being freed from the husks, or pods, which are gathered upon their turning brown, and when beginning to burst open, are first bruised in a mortar, afterwards tied up in a linen bag, and then thrown into a large pot, with a sufficient quantity of water, (about eight gallons to one gallon of the seeds) and boiled till the oil is risen to the surface, when it is carefully skimmed off, strained, and kept for use. Thus prepared, the oil is entirely free from acrimony, and will stay upon the stomach when it rejects all other medicines." And Mr. Long remarks, that "the oil intended for medicinal use is more frequently cold-drawn, or extracted from the bruised seeds by means of a hand-press. But this is thought more acrimonious than what is prepared by coction."[f] Dr. Browne is also of this opinion, and prefers the oil procured by coction to that by expression; he attributes its greater mildness to the action of the fire, observing that the expressed oil, as well as the mixed juices

[e] Some objection has been made to this manner of obtaining the oil, as stated in our pharmacopœia, which we shall here mention in the words of Murray: Expressione si eliceatur oleum, quidam suadent decorticati seminis præviam conquassationem in mortario, (*Canvane Diss. on the Oleum Palmæ Christi. &c. p.* 20.) sed inde ob mucilaginis evolutionem, quæ simul contingit crassum & turbidum evadit oleum (quod bene adjecit Bonelli in *versione libri cl. Canvane. p.* 63. *Glendenberg l. c. p.* 32), nec nisi difficulter eruitur. Præstat igitur nucleos integros premere. Facilius quoque evocatur oleum ex seminibus, quæ moram aliquam traxerunt, quam ex recentibus: mucilago enim sensim siccior evadere videtur, tumque connubium suum cum oleo relaxare." (*Heyer in Crells Entd. P. 3. p.* 74.) *l. c.*

[f] *Long's Jamaica, p.* 713. It is well known however, that the oil obtained by boiling becomes much sooner rancid than that by expression. The best oil is limpid, and destitute of taste or smell. In the West Indies it is usually consumed in lamps, and for other domestic purposes.

of the seeds, are far more active and violent in their operations.[g] Dr. Cullen observes, that " this oil, when the stomach can be " reconciled to it, is one of the most agreeable purgatives we can " employ. It has this particular advantage, that it operates sooner " after its exhibition than any other purgative I know of, as it " commonly operates in two or three hours. It seldom gives any " griping, and its operation is generally moderate, to one, two, " or three stools only. It is particularly suited to cases of costive- " ness, and even to cases of spasmodic cholic. In the West Indies " it is found to be one of the most certain remedies in the dry " belly ach, or colica pictonum.[h] I have never found it heating " or irritating to the rectum, and therefore have found it suffi- " ciently well suited to hæmorrhoidal persons. The only incon- " venience attending the use of this medicine is, that as an oil it " is nauseous to some persons; and that, when the dose is large, " it occasions sickness at the stomach for some time after it is " taken. To obviate these inconveniences, several means have " been tried; but I shall not detail these here, as I can assert, that " the most effectual means is the addition of a little ardent spirit. " For this in the West Indies they employ rum; but that I might " not withdraw any part of the purgative, I employ the tinctura " sennæ composita. This, added in the proportion of one to " three parts of the oil, and very intimately mixed by their being " shaken together in a phial, both makes the oil less nauseous to " the taste, and makes it sit more easy on the stomach. The com- " mon dose of this oil is a table-spoonful, or half an ounce; but " many persons require a double quantity."[i]

[g] L. c. But this is better explained under note †

[h] We may add, that it has been experienced to be an useful medicine in various febrile complaints, and in bilious cholics, nephritic cases, worms, especially the tape worm.

[i] *M. M. vol.* 2. *p.* 563, Dr. Cullen remarks, " It is particularly to be observed of this medicine, that if it be frequently repeated, the dose of it may be gradually more and more diminished. And I know instances of persons who, formerly of a costive habit, at first required half an ounce or more for a dose; but after being frequently repeated, they now find that two drams are enough, at least to keep the belly regular."

Croton Cascarilla

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CROTON CASCARILLA. CASCARILLA, Or, WILLOW-LEAVED CROTON.

SYNONYMA. Cascarilla. *Pharm. Lond. & Edinb. olim* Elutheria *dicta.* Ricino affinis odorifera fruticosa major, rosmarini folio, fructu tricocco albido. *Sloane Jam. p.* 133. *tab.* 86. Croton *(Rosmarinifolium)* foliis lineari-lanceolatis, glabris, subtus argenteis, caule fruticoso, floribus spicatis terminalibus. *Mill. Dict.* Croton *lineare* foliis linearibus integerrimis obtusis subtus tomentosis, caule fruticoso. *Aiton. Hort. Kew.* vol. iii. p. 374. *Jacquin Stirp. Americ.* 256. *tab.* 162. *Am. Acad.* 5. *p.* 411.

Class Monoecia. *Ord.* Monadelphia. *L. Gen. Plant.* 1083.

Ess. Gen. Ch. *Masc. Cal.* cylindricus, 5-dentatus.
Cor. 5-petala. *Stam.* 10-15.
Fem. *Cal.* polyphyllus. *Cor.* 0. *Styli* 3, bifidi.
Caps. 3-locularis. *Sem.* 1.

Sp. Ch. C. fol. lanceolatis acutis integerrimis petiolatis subtus tomentosis, caule arboreo.

THIS Shrub never rises to any considerable height; it sends off several round branches, and is covered with a brown bark, the external coat of which is white and rough: the leaves are long, narrow, entire, somewhat pointed, placed on short footstalks, above of a bright green colour, beneath downy, and of a silvery whiteness; the stipulæ, or scaly leaves, are narrow and lance-shaped; the flowers are produced about July, in a long terminal spike, and are both male and female: the male flowers are placed uppermost, and are furnished with a cylindrical calyx, cut at its extremity into five segments; the petals are five, small, oval, and

of a white or yellowish colour; the stamina are numerous, commonly from ten to fifteen. The *female flowers* have no corolla; the calyx consists of five or six oval leaves; the styles are three, forked; the capsule divides into three cells, each of which contains a single seed.

Writers on the Materia Medica have differed much respecting the plant which produces the officinal cortex cascarillæ;[a] and even now this point does not appear to be sufficiently ascertained: the London College has therefore cautiously avoided making any botanical reference to the plant which affords it. Linnæus, whose authority is certainly the best, in his first edition of the Mat. Med. considered the Cascarilla as a species of the Clutia; but in the second edition it is described as a Croton, and in his *Amœnitates Academicæ* we are again presented with the Clutia *Cascarilla*.[b] What adds to this uncertainty is, that under both these genera it is referred to the same synonyma of Sloane and Browne; yet it is remarkable, that neither of these authors notices the medicinal uses of its bark,[c] although so long known as a medicine in great estimation in every part of Europe.

The plant,[d] from which the annexed figure of the Cascarilla is taken, was found to agree very accurately with the generic cha-

[a] This may be understood from the following names:

Cortex Thuris. *Dale Pharmac. p.* 346. Cortex Thuris nonnullis dictus, vel Thymiama. *Raii Hist.* 1841. Storax rubra officinarum. *Bauh. Pin.* 453. Thus Judæorum. *Park. Theat.* 1602. Schakarilla, Chakarilla. *Mout. Exot.* 8. Kina-kina Aromatica, Cascarilla, Cortex Eleterii sive Scacarilla officinarum, Cortex peruvianus griseus sive spurius. *Geoff. M. M.*

[b] Vide vol. 5. p. 411.

[c] It is mentioned only as being used in medicated baths, and for fomentations. Vide Sloane l. c. The Ricinoides Elæagni folio of Catesby, is stated by him to be a good aromatic bitter, and, on being burnt, to yield a fine perfume. Carolin. vol. 2. p. 46. Walter, in his *Flor. Carolin*, does not mention the Cascarilla, though he discovered a new species of the Croton.

[d] This specimen was procured from the garden at Sion-House, the seat of his Grace the Duke of Northumberland

racter of the Croton, as the plate itself must evince: we are therefore under no difficulty in assigning it to that genus. Whether the Cascarilla then is really a Croton or a Clutia, depends upon the fidelity and precision with which the synonyma have been respectively applied.* According to Lewis, the Cortex Cascarillæ is imported into Europe "from the Bahama islands, particularly from that which is called Elatheria, in curled pieces, or rolled up into short quills about an inch in width; covered on the outside with a rough whitish matter, and brownish on the inner side, exhibiting, when broken, a smooth close blackish brown surface. This bark, freed from the outer whitish coat, which is insipid and inodorous, has a light agreeable smell, and a moderately bitter taste, accompanied with a considerable aromatic warmth; it is very inflammable, and yields, whilst burning, a remarkably fragrant smell, somewhat resembling that of musk. Its virtues are partially extracted by water, and totally by rectified spirit. Distilled with water it yields a greenish essential oil, of a very pungent taste, and of a fragrant penetrating smell, more grateful than that of the Cascarilla itself, and obtained in the proportion of one dram from sixteen ounces of the bark."[e] The agreeable odour which this bark produces during its burning, induced many to smoke it mixed with tobacco,[f] before it became known as a medicine in Europe, which was not till towards the latter end of the last century; when it was recommended by Professor Stisser,[g] who found it to be a powerful diuretic and carminative, and who used it with success in calcalous, asthmatic, phthisical, scorbutic, and arthritic complaints. After this it was sold at Brunswick as a

* Murray, Bergius, Spielman, the Edinburgh and most of the foreign Pharm. make it a Croton.

[e] The analysis, given by Böhmer, differs from this; for which see *Diss. de cort. cascar. p.* 29.

[f] When used in a considerable quantity in this way, it is said to produce intoxication.

[g] Anno 1690. *Vide Act. laborat. chym. specim. cap.* 9.

species of the Peruvian bark, and many physicians in Germany experienced its good effects in fevers of the intermittent, remittent, and putrid kind.[h] But while the facts establishing this febrifuge power of the Cascarilla are supported by authors of great respectability,[i] they are yet so little regarded, that this medicine is now very rarely prescribed in fevers, either in this country, or on the neighbouring continent. In intermittents, however, there can be no doubt but this bark, or indeed any other medicine possessing tonic and aromatic qualities, may frequently effect a cure. The German physicians have also given much credit to the Cascarilla as an astringent, and recommended it in hæmorrhages, and various alvine fluxes, in which several instances of its utility are recorded.[k]

Dr. Cullen was in doubt whether to class this drug with the aromatics or with the tonics, but he determined upon the latter as the most proper; besides its being stomachic and corroborant, it is also reported to be diuretic: but proofs of its efficacy in particular diseases have not (as far as we know) been ascertained, nor even attempted by any adequate trials made in this country.[l] We shall not therefore follow a late ingenious author, in depreciating this medicine, from a mere speculation on its sensible qualities, but rather recommend it to the medical practitioner, as deserving a farther trial. It promises most advantage given in substance, the dose of which is from fifteen grains to a dram.

[h] Ludovicus Apinus first employed it in fevers, and experienced great success by its use in an epidemic, which raged in the neighbourhood of Nurenburg, (by Lewis erroneously called Norway) during the years 1694 and 1695. *Feb. epidem. historica relatio.*

[i] Junker, Fagon, Werlhof, Santhesson, and others.

[k] Degner de dysent. bil p. 164. Bergius Mat. Med. p. 766. Hist. de l'Acad. Royale des Sc. pour l'ann. 1719.

[l] What is said of it by Monro, (Milit. Hospit. p. 202.) and by Lind. (Diss. in hot climates) cannot be considered as exceptions.

Clutia Eluteria s. Cascarilla.

The Author takes this opportunity of observing, that all the figures which he has published, were taken either from dried or recent specimens, excepting in very few instances, where he was under the necessity of resorting to the plates of others; this, however, was never done but upon unquestionably good authorities.—And whenever future discoveries shall shew that he has been misled, he will not fail to acknowledge it: the only instance that has yet occured to him is the following of Cascarilla.

CLUTIA ELUTERIA. CASCARILLA CLUTIA.

SYNONYMA. Cascarilla. *Pharm. Lond. & Edinb.* Elutheria et Eluteria, Auctorum. Clutia *(Elutheria)* foliis cordato-lanceolatis. *Mill. Dict. Amæn. Acad.* vol. 5. p. 411. *Hort. Cliff.* 486. *Flor. Zeyl.* 366.

Class Dioecia. *Ord.* Pentandria. *Lin. Gen. Plant.* 1140.

Gen. Ch. *Masc. Cal.* 5-phyllus. *Cor.* 5-petala.
Fem. Cal. 5-phyllus. *Cor.* 5-petala. *Styli* 3. *Caps.* 3-locularis. *Sem.* 1.

Sp. Ch. C. foliis cordato-lanceolatis.

THIS small tree grows several feet in height, and sends off numerous branches, especially towards the top: the bark which covers the branches is brown and smooth, but that of the trunk is externally more white and rough: the leaves are entire, lanceolate, somewhat cordate, and elongated towards the apex, which is blunt, on the upper side of a bright green, on the under side paler, and placed alternately upon long footstalks. Both the male and

female flowers stand in spikes, and are composed of a calyx divided into five ovate leafits, enclosing an equal number of small whitish petals, and within these the nectaria are placed. The female flower produces a roundish germen, supporting three bifid spreading styles, terminated by obtuse stigmata: the capsule is globular, rough, marked with six furrows, and divided into three cells, containing a solitary oval shining seed.

The history of the Cascarilla Clutia will determine what was left doubtful in that of the Croton Cascarilla, which is figured on the authority of Linnæus;[a] though we then observed that it did not appear "sufficiently ascertained" whether or no it furnished the officinal Cascarilla. This point however we can now confidently decide in the negative.

Among other circumstances, which tended to involve the parental source of Cascarilla long in uncertainty, was the assertion of some authors,[b] that it was a native of the Spanish Main, and was thence imported into Europe; thus founding a presumption, that the Cascarilla and Elutheria Barks were different, and that the latter only was the produce of the Bahama Islands. But this assertion we have discovered to be contrary to fact; for, upon inquiry, we do not find that this drug was ever exported from Spanish America, but that the Bahamas have constantly supplied the European markets with Cascarilla bark, a parcel of which was sent here from one of those Islands, along with specimens of the tree producing it; of which the figure here given is a faithful representation, as may be seen by comparing it with the original in the herbarium of Sir Joseph Banks.

But it will be necessary to observe here, that Dr. Wright, in his account of the medicinal plants growing in Jamaica,[c] gives the name Croton Elutheria to a tree, the bark of which he says "is the

[a] The bark of this plant, according to Dr. Wright, has none of the sensible qualities of Cascarilla.

[b] See Boulduc. *Hist. de l'Ac. des Sc.* 1719. *p.* 14. Spielmann *M. M. p.* 249.

[c] *Med. Journ. vol.* 8. *p.* 3.

Siphonia elastica

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same as the Cascarilla or Elutheria of the shops:" it seems therefore probable, that different species of Clutia may produce bark of the same, or of similar qualities to that of Cascarilla, as we find several instances in which the same drug is produced by various species of plants.

That the tree here called by Dr. Wright Croton does not belong to this genus, but it is evidently a Clutia, appears by the dioicous specimen of it sent by him to the President of the Royal Society; a part of which, with the male flowers, is delineated in the present plate, in order that the Jamaica and Bahama Cascarilla may be compared together; the former being distinguished by figure I.

The Clutia Eluteria seems to have been first introduced into Britain by Mr. P. Miller; but it is not to be found in the King's garden at Kew, nor have we seen it cultivated any where near the Metropolis. According to a late German author,[d] it grows abundantly in the Bahama Islands, where the bark, which forms a principal export, is sold at the very low rate of *10s. 6d.* ♆ ♁.

Respecting the medical history, qualities, and uses of Cascarilla bark, we have nothing to add to what is given in the preceding article.

[d] Vide J. D. Schæpf. *Reise durch einige der mittlern und fudlichen vereinigten cordameritanischen staaten nac ost-Florida undden Bahama Inseln.*

SIPHONIA ELASTICA. INDIA RUBBER; Or ELASTIC RESIN TREE.

SYNONYMA. Hevea guianensis. *Aublet. Histore des plantes de la Guiane Françoise. tom. 2. p. 871. tab. 335.* Caoutchouc. *Richard, in Rozier obs. sur la physique. tom. 27. p. 138. t. 2.* Jatropa elastica. *Supp. Plant.* The Figure by Fresnau in Mem. de L'Acad. des Scien. a. 175. t. 20. is erroneous.

Monoecia Monadelphia. *Schr. Gen. Plant.* 1465.

Gen. Ch. *Masc. Cor.* 0. *Cal.* globoso-campanulatus, semiquinquefidus. *Filament.* colum. *Antheræ.* 5, adnatæ.

Fem. Cor. 0. *Cal.* 5-fidus, patens, solitarius, racemum terminans. *Stylus* 0. *Stigmata* 3. *Caps.* 3-locularis, lignosa, durissima.

Sp. Ch. S. foliis ternatis ellipticis integerrimis subtus canis longe petiolatis. Supp. Plant.

A LARGE straight tree, growing to the height of fifty or sixty feet; at the upper part sending off numerous branches, covered with rough bark. Leaves on long footstalks, ternate, elliptical, somewhat pointed, entire, veined, smooth, on the under side whitish. Flowers male and female on the same tree, small, in dividing racemi at the ends of the branches. *Male flowers* numerous: calyx globoso-campanulate, five-cleft, segments erect, pointed. Corolla none. Filaments in a column, shorter than the calyx. Antheræ five, united. *Female flower* solitary, larger than the male, and placed at the extremity of the racemus: calyx bell-shaped, cut into five teeth, which are acute, patent, or recurved, deciduous. Germen roundish, shorter than the calyx. Style none. Stigmata three, depressed. Capsule large, three-parted, woody, very hard, covered with fibrous bark, three-celled, valves opening. Seeds ovate, spotted.

This tree is a native of South America, growing abundantly in the woods of Guiana, in the Province of Quito, and along the borders of the River Amazons, in the kingdom of Mexico.

The younger Linnæus admitted this tree into the *Supp. Plant.* under the genus Jatropa, to which its fruit seemed to bear a greater affinity than to that of any other; but by the diligence of Richard[a] its characters have been found sufficiently different to constitute a new genus, which Schreber calls Siphonia. This we have therefore adopted, still preserving the specific name elastica.

[a] Vide *Rozier obs. sur la physique. tom.* 27.

The substance, known by the names India rubber, elastic gum, Cayenne resin, cautchuc, and by the French caoutchouc, is prepared from the juice of this tree: as subservient to several medical or chirurgical purposes, it comes within the scope of this work, and must therefore prove sufficiently interesting to the medical reader.

This singular substance was little known in Europe till long after the commencement of the last century; and its origin and composition was first learned from M. de la Condamine,[b] who by travelling into the interior parts of South America had an opportunity of acquiring the necessary information. This active and enterprizing member of the French Academy found that the Caoutchouc was formed from the juice of a large tree, which has since been botanically examined and ascertained to be that here represented.[c]

The manner of obtaining this juice is by making incisions through the bark of the lower part of the trunk of the tree, from which the fluid resin issues in great abundance, appearing of a milky whiteness as it flows into the vessel placed to receive it, and into which it is conducted by means of a tube or leaf fixed in the incision, and supported with clay. On exposure to the air this milky juice, according to Aublet, gradually inspissates into a soft reddish elastic resin; but M. de la Borde, and some others, assert that the juice undergoès a certain preparation before its inspissation, which is effected by a peculiar process, which the Indians keep a profound secret.[d] To suit the different purposes for which it is employed in South America, the Caoutchouc is shaped into various forms;[e] but it is commonly brought to Europe in that of

[b] *Relation d'un voyage dans l'interieur de l'Amerique meridionale, in Mem. de l'Acad.* 1751. *p.* 322.

[c] It was taken from a very complete specimen in the possession of Sir Joseph Banks. We must remark however, that some other vegetable juices admit of being formed into a species of caoutchouc, of which Fresnau has given an account. *L. c. p.* 324.

[d] Vide *Rozier. obs. et mem. sur la physique. tom.* 1. *p.* 464.

[e] The curious diversity of figures in which this substance was sold in Portugal is noticed by Mr. Twiss. See *Travels through Portugal and Spain.* 323.

pear-shaped bottles, which are said to be formed by spreading the juice of the Siphonia over a proper mould of clay, and as soon as one layer is dry another is added till the bottle be of the thickness desired. It is then exposed to a dense smoke, or to a fire, until it becomes so dry as not to stick to the fingers, when by means of certain instruments of iron or wood it is ornamented on the outside with various figures. This being done it remains only to pick out the mould, which is easily effected, on being first softened with water.

The substance, thus manufactured, is so well known as to render any particular description of it unnecessary. It may be subjected to the action of some of the most powerful menstrua without suffering the least change, while its pliability and elasticity are eminently peculiar to itself. It is true that the lactescent juice of several vegetables may be converted into a substance resembling the Caoutchouc, but no art has yet been discovered to give it the same properties.

The Chinese elastic resin is said to be prepared of castor oil and lime;[f] or, according to Retzius, it is nothing but a certain expressed oil evaporated by heat:[g] hence its easy solubility.

With a view to investigate the interesting nature of the Caoutchouc, and to render it of more general utility, several able chemists have been diligently employed, especially Macquer,[h] Achard,[i] Juliaans,[k] and Berniard,[l] from whom its chemical history is to be learned: our duty however is to state only some of the principal facts.

Though it appears that neither water nor alcohol, aided by all the heat capable of being produced in Papin's digester, could dissolve this substance, yet its solution was effected not only by

[f] V. Faujas de Saint-Fond *Suite de la description des experiences aërostatiques tom. 2. p.* 258.

[g] *Pharm. reg. veg. p.* 60. [h] *Mem. de l'Acad. des Sc. de Paris, pour* 1768.

[i] *Chymisch phys. Schriften cap. De resina elastica.*

[k] *Diss. de Resina elastica Cayennensi.* [l] See *Rozier Obs. sur la Physique. tom.* 17.

the concentrated mineral acids, but in a considerable degree even by most of the unctuous, distilled, and empyreumatic oils. However, as it was found that the solutions of this inspissated juice by these menstrua irrecoverably lost their elasticity, and became useless, the great desideratum of re-forming the Caoutchouc was not attained till ether was employed as its solvent; which was first done by Macquer, who for this purpose found it necessary to use the vitriolic ether in a highly rectified state.

The Caoutchouc, cut into small pieces, and put into a proper vessel with as much of the ether as was sufficient to cover it, was completely dissolved without the application of heat. This solution, which was transparent, and of an amber colour, on being thrown into water, did not produce a milky liquor; but there arose to the surface a solid membrane, possessing the elasticity and other properties of the Caoutchouc. This experiment was also executed with success by Theden;[m] therefore those with whom it failed must have used ether in a less concentrated state. According to Theden one dram of the Caoutchouc requires for its perfect solution an ounce of ether. Nitrous ether dissolves but a small proportion of the Caoutchouc, and at the same time destroys its elastic power.

It has been asserted that the elastic resin not only dissolves in oil of guaiacum by digestion, but that on evaporating the oil, the resin in a little time recovers its elastic property. By the industry of Achard, who made this discovery, we likewise learn that solutions of this substance, made by the etherial oils, may be decomposed by the addition of spirit of wine, when the Caoutchouc separates from the oil in the form of mucilage, and on being sufficiently exposed to the air, is restored to its former firmness and elasticity.

However Juliaans, who attempted this process, was unable to re-produce a substance possessing the characters of the elastic resin: it is therefore to be feared that this method, which seemed

[m] *N Bemerk. a. d. Wundarzneyk. P. 2. p. 152.*

to promise an easy and cheap way of forming various instruments of the Caoutchouc, has been prematurely recommended: nor does this method of softening the elastic resin with the animal oil of Dippelius, or with oil of turpentine, as proposed by Herissant, for the purpose of forming it into probes, &c. produce the effect desired. It appears therefore that Macquer's process of dissolving this substance in ether, by which he was enabled to give a coat of Caoutchouc of considerable thickness to a cylindrical mould of wax, is the best way yet discovered of adapting this substance to surgical and other purposes: for on immersing the waxen mould, thus covered with the elastic resin, in boiling water, the wax soon melts and rises to the surface, leaving behind a regular tube of Caoutchouc. In order to render the tubes of sufficient firmness to be used as catheters, it has been recommended that gold or silver wire, rolled in a close spiral manner, should be coated with the elastic resin, and these, as possessing both pliability and firmness, are said to succeed very well. Various other methods of forming catheters, bougies, pessaries, trusses, &c. of this substance, are to be found in the Journal de Medicine,[n] especially by Durand and Juville; and by its remarkable flexibility and elasticity it accommodates itself to the motion of the body, and thereby possesses peculiar advantages. For a syringe, or injecting machine, the common form in which it is brought here is exceedingly well adapted, and only requires that a proper pipe be fixed to the neck of the elastic bottle to render it fit for use, which is now well known.

We are told that in Quito one of these bottles, fastened to a hollow reed, and filled with water, is always presented at entertainments to each of the guests, who use it as an injection before eating.

The Indians make boots of the Caoutchouc; also a kind of cloth which they use for the same purposes as we use oil cloth. Flambeaux are likewise made of this resin, which yield a beautiful light without any disagreeable smell. In this country it is much used for rubbing out black-lead pencil marks.

[n] See *tom.* 60. & 62.

Thea

THEA. TEA-TREE.

SYNONYMA. Thea. *Pharm. V. Dale, Geoffroy, Alston, Lewis. Ed. New Dispens. Bergius, Murray, Cullen, &c.* Chaa. *Bauh. Pin.* The Sinensium seu Tsia Japonensibus. *Breyn. Exot. Plant.* Tsja, Thea frutex folio Cerasi flore Rosæ sylvestris. *Kämpfer. Amœn. exot.* Le Thee. *Fougeroux de Bondaroi* in *Rozier, Obs. et Mem. sur la Physique. tom.* 1. *f.* 1. See *Letlsom's Natural History of the Tea-Tree.*

Polyandria Monogynia. *Lin. Gen. Plant.* 668.

Gen. Ch. *Cor.* 6-s. 9-petala. *Cal.* 5-s. 6-phyllus. *Caps.* 3-cocca.

Sp. Ch. α *(Bohea)* foliis elliptico-oblongis rugosis.
Broad-leav'd Tea.
β foliis lanceolatis planis.
Narrow-leav'd Tea.
Aiton. Hort. Kew.

A SMALL evergreen or shrub, much branched, and covered with a rough dark grey bark. Leaves elliptical, or lanceolate, entire, alternate, obtusely serrated, veined, placed on short foot-stalks. Calyx small, smooth, persistent, divided into five obtuse segments. Flowers white, often two or three together, on separate peduncles, placed at the axillæ of the leaves. Corolla varying in the number and size of its petals, but commonly six, of an irregular roundish form. Filaments very numerous, short, inserted at the base of the corolla. Antheræ large, yellow. Germen roundish, or rather triangular. Style trifid, spreading at the top, and furnished with simple stigmata. Capsule three-celled, opening. Seeds three, oblong, brown.

This shrub is a native of China and Japan, and (according to Mr. Aiton) was first introduced into this country in 1768 by John Ellis, Esq. who raised it from seed, and presented it to the King's gardener at Kew. But we are told that the Tea-plant which first flowered in Europe, belonged to his Grace the Duke of Northumberland, at Sion-house.

All the various kinds of Tea imported here come under the denomination of Bohea and Green, and even these are supposed to be the produce of the same species of the plant. Linnæus however has described them as specifically different, founding the distinction in the number of their petals. Others have also observed, that the leaves of Tea plants differ considerably both in form and colour, and this difference we have frequently noticed in the Tea growing in the vicinity of London; but whether these which the gardeners sell by the name of Bohea and Green Tea plants are to be regarded as permanent varieties, or distinct species, we have not the means to decide. De Loureiro[a] has described three species of Thea, viz. Thea cochinchinensis, Thea cantonensis, and Thea oleosa. The first is a native of Cochin-China, where it is also cultivated, and used medicinally in hot weather as a sudorific and refrigerant. The Thea oleosa grows wild in the neighbourhood of Canton, where an oil obtained from its seed is used for various domestic purposes. The Thea cantonensis, which Loureiro carefully examined in its native soil, was found to bear a close resemblance to another variety called *Siaò chong châ,* and by the Europeans Souchong. Both these are brown, but more fragrant and valuable than the common green Tea, which grows in the province of *Fo kien.* Notwithstanding that this author has described the three species of Thea above mentioned, he says that on examining the dried flowers of the green Tea, brought from the province of Kiang si, he observed a great diversity in the number of the parts of the calyx and corolla: hence he concludes that all the various Chinese Teas are taken from the same botanical species,

[a] Flor. Cochinchinesis.

and that the different flavour and appearance of Teas depend upon the nature of the soil, the culture, and method of preparing the leaves.

This opinion, which is founded on the sportive tendency of the flowers of the Tea plant, clearly shows the fallacy of distinguishing the bohea and green Tea trees by the number of their petals, which even in this country have been found to vary from three to nine; yet this circumstance, though it proves the insufficiency of the Linnean characters, by no means determines the botanical identity of the green and bohea Teas; and while the present narrow and jealous policy of the Chinese continues, many interesting particulars respecting the natural history of Tea must still remain unknown to Europeans: hence I have thought myself unauthorized to add a specific name to the plate of the Tea plant here annexed, * which represents the variety β in the *Hort. Kew.* or the Thea viridis of the London gardeners.

The various Teas imported into Europe are obtained both from the wild and cultivated plant. The manner of gathering and preparing the leaves, as practiced in Japan, is very fully described by Kæmpfer, and is, as far as our information extends, conformable to the method used by the Chinese.

The first gathering of the Tea leaves, according to this author, commences about the latter end of February, when the leaves are young and unexpanded. The second collection is made about the beginning of April, and the third in June. The first collection, which consists only of the fine tender leaves, is most esteemed, and is called Imperial Tea. The second is called Tootsjaa, or Chinese Tea, because it is infused and drunk after the Chinese manner. The last, which is the coarsest and cheapest, is chiefly consumed by the lower class of people. Besides the three kinds of Tea here noticed, it may be observed, that by garbling or sorting these, the varieties of Tea become still farther multiplied. As many Tea plants grow on cliffs and places of difficult access, the Chinese

* Taken from the plant now in flower in the stove of John Liptrap, Esq.

Tea gatherers are said† to have occasional recourse to the assistance of monkies, which are chased up the Tea trees, and so much irritated that in their fury they bite off the branches, and throw them down in resentment: the branches are then taken up, and the leaves picked off. The leaves are not collected from the cultivated plant till it is three years old; and after growing seven or ten years it is cut down, in order that the numerous young shoots may afford a greater supply of leaves.

The leaves should be dried as soon as possible after they are collected; and for this purpose Kæmpfer relates, that public buildings are erected, containing from five to ten and even twenty small furnaces about three feet high, each having at the top a large iron pan. There is also a long table covered with mats, on which the leaves are laid and rolled by workmen who sit round it. The iron pan being heated to a certain degree, by a fire made in the furnace beneath, a few pounds of the leaves are put upon the pan, and continually turned and shifted by the hands till they become too hot to be endured; they are then thrown upon the mats to be rolled, which is done between the palms of the hands, after which they are cooled as speedily as possible.

In order that all the moisture of the leaves may be completely dissipated, and their twisted form be better preserved, the above process is repeated several times with the same leaves, but less heat is employed than at first. The Tea thus manufactured is afterwards sorted according to its kinds or goodness. Some of the young tender leaves are never rolled, and are immersed in hot water before they are dried.

From this account of the Japanese method of curing their Teas it appears, that a prompt and complete exsiccation is the chief art employed. We suspect however, that the Chinese are more indebted to art than to nature for the various kinds of Tea with which they supply this country. Many of their Teas are so widely different in taste, odour, colour, and form, that instead of appear-

† See *Lettsom. l. c.*

ing to be the leaves of the same species of plant, they are so much disguised as scarcely to manifest any resemblance to each other. It is true that some species and varieties of the Tea, as appears by Loureiro, are naturally more odorous than others; yet we cannot suppose that nature ever made them totally different. The same observation will be equally applicable to the various flavours and colours of this exotic. We may therefore infer, that the Chinese method of curing their fine Teas is not quite so *simple* as that practised by the Japanese.

Tea was first introduced into Europe by the Dutch East India Company, and into England about the year 1666, when it sold for sixty shillings ℔ lb, and for many years its great price limited its use only to the most opulent. However, for a long time past it has been the common beverage of both the rich and poor; and its effects have been very variously represented; but as to enter fully upon this subject would far exceed the limits of this work, I shall refer the reader for a more full account to Dr. Lettsom's elaborate history of the Tea tree; and conclude this article with a transcript of its medicinal powers, as given by Dr. Cullen, whose opinion in this place cannot fail to be well received.

" With respect to its qualities as a medicine, that is, its power " of changing the state of the human body, we might suppose it " ascertained by the experience of its daily use; but from the " universality of this use in very different conditions of the plant, " and in every possible condition of the persons employing it, " the conclusions drawn from its effects must be very precarious " and ambiguous, and we must attempt by other means to " ascertain its qualities with more certainty.

" To this purpose it appears, from the accurate Dr. Smith's " experiments *De Actione Musculari,* No. 36, that an infusion of " green Tea has the effect of destroying the sensibility of the " nerves, and the irritability of the muscles; and from the expe- " riments of Dr. Lettsom, it appears that green Tea gives out in " distillation an odorous water, which is powerfully narcotic.

" That the recent plant contains such an odorous narcotic " power, we might presume from the necessity which the Chinese " find of drying it with much heat before it can be brought into " use; and that, even after such preparation, they must abstain " from the use of it for a year or more, that is, till its volatile " parts are still farther dissipated: and it is said, that unless they " use this precaution, the Tea in a more recent state manifestly " shows strong narcotic powers. Even in this country, the more " odorous Teas often show their sedative powers in weakening the " nerves of the stomach, and indeed of the whole system.

" From these considerations we conclude very firmly, that Tea " is to be considered as a narcotic and sedative substance; and that " it is especially such in its most odorous state, and therefore less " in the bohea than in the green Tea, and the most so in the more " odorous, or what are called the finer kinds of the latter.

" Its effects, however, seem to be very different in different " persons; and hence the different, and even contradictory ac- " counts that are reported of these effects. But if we consider " the difference of constitution, which occasions some difference " of the operation of the same medicine in different persons, and " of which we have a remarkable proof in the operation of opium, " we shall not be surprised at the different operations of Tea.

" If to this we add the fallacy arising from the condition of the " Tea employed, which is often so inert as to have no effects at " all; and if we still add to this the power of habit, which can " destroy the powers of the most powerful substances, we shall " not allow the various and even contradictory reports of its " effects to alter our judgment, with respect to its ordinary and " more general qualities in affecting the human body.

" These, from the experiments above mentioned, and from the " observations which I have made in the course of fifty years, in " all sorts of persons, I am convinced that the qualities of Tea are " narcotic and sedative.

Winteria aromatica

Published by W. Phillips, Oct.1st 1809.

" It has been often alleged, that some of the bad effects imputed " to Tea are truly owing to the large quantity of warm water " which commonly accompanies it; and it is possible that some " bad effects may arise from this cause: but from attentive obser- " vation I can assert, that wherever any considerable effects " appear, they are in nine of every ten persons entirely from the " qualities of the Tea; and that any like effects of warm water do " not appear in one of a hundred who take in this very largely.

" But while we thus endeavour to establish the poisonous nature " of Tea, we do not at the same time deny that it may sometimes " show useful qualities. It is very possible, that in certain persons, " taken in moderate quantity, it may, like other narcotics in a " moderate dose, prove exhilirating, or, like these, have some " effect in taking off irritability, or in quieting some irregularities " of the nervous system.

" As its bad effects have been often imputed to the warm water " that accompanies it, so we have no doubt that some of its good " effects may also be ascribed to the same cause, and particularly " its being so often grateful after a full meal."[a]

[a] *Mat. Med. vol.* 2. *p.* 309.

WINTERA AROMATICA. WINTER's BARK TREE.

SYNONYMA. Winterana aromatica. *Solander* in *Med. Observations & Inquiries, vol.* 5. *p.* 41. *t.* 1. Drimys Winteri pedunculis aggregatis terminalibus. *Forster* in *Nov. Act. Upsal. vol.* 3. *p.* 181. Laurifolia magelliana, cortice acri. *Bauh. Pin.* Periclymenum rectum foliis laurinis cortice acri aromatico. *Sloane* in *Phil. Trans. vol.* 17. *p.* 923. *iab.* 1. *f.* 1. 2.

Winteranus cortex. *Pharm. Edinb.*

Polyandria Tetragynia. *Schreb. Gen. Plant.* 929.

Gen. Ch. *Cal.* 3-lobus. *Petala* 6. s. 12. *Germina* clavata. *Stylus* 0. *Bacca* clavata.

Sp. Ch. W. pedunculis aggregatis terminalibus, pistillis quatuor.

THIS very large tree often rises to the height of fifty feet. The bark of the trunk is grey, and somewhat wrinkled, but that on the branches is green and smooth. Leaves oval, or elliptical, entire, obtuse, flat, smooth, shining, evergreen, of a pale bluish colour underneath, and placed irregularly upon thick footstalks. Flowers white, placed on long peduncles, which proceed from the alæ of the leaves at the tops of the branches. Bracteæ oblong, entire, concave, pointed, whitish, placed at the base of the peduncles. Calyx of one leaf, firm, dividing into three irregular pointed lobes. Corolla of seven petals, which are unequal, oval, obtuse, concave, erect, white. Filaments numerous, (from 15 to 30) much shorter than the petals. Antheræ large, oval, divided longitudinally. Germina from three to six, turbinated. Styles none. Stigmata divided, flat. Capsules fleshy, containing four triangular seeds.

It is a native of the Streights of Magellan and Terra del Fuego.

Dr. Solander relates that "the tree which produces the Winter's "Bark was utterly unknown to the Europeans till the return of "Captain John Winter, who, in the year 1577, sailed with Sir "Francis Drake, as commander of a ship called the Elizabeth, "destined for the South Seas; but immediately after they had "got through the Streights of Magellan, Captain Winter, on the "8th of October, was obliged, by stress of weather, to part com-"pany, and to go back again into the Streights, from whence he "returned into England in June 1579, and brought with him "several pieces of this aromatic bark, which Clusius called after "him Cortex Winteranus. Several authors have mentioned it "since in their botanical works; but all they have said has been

" copied from Clusius. No more was heard of this bark till the " Dutch Fleet, under Admiral Van Nort, returned from the " Streights of Magellan, in the year 1600. Afterwards all the " navigators who passed through the Streights of Magellan took " notice of the tree, on account of the usefulness of its bark: " but none furnished any description that could make it bo- " tanically known before Mr. George Handasyd came back from " the Streights of Magellan in 1691, and brought with him some " dried specimens, which he gave to Sir Hans Sloane, and are now " preserved in the British Museum. From these specimens, and " the account Mr. Handasyd gave of this tree, Sir Hans Sloane " drew up a history, and gave a figure in the Philosophical " Transactions. Still the systematical botanists could not give it " a place in their catalogues, being unacquainted with its flowers " and fruit." However this loss was supplied by the industry of Mr. Wallis, Captain of the Dolphin, who returned from the South Seas in 1768, bringing with him several botanical specimens of the Winter's Bark Tree, one of which came into the possession of Dr. John Fothergill, who caused an engraving of it to be made by Ehret, which is published, together with its botanical description written by Dr. Solander, in the fifth volume of the *Medical Observations and Inquiries.* From the plate here alluded to, the annexed figure is taken.

Though Winter's Bark has been very generally confounded with the canella alba, yet they are well known to be totally different.

Winter's Bark is of a dark brown cinnamon colour, with an aromatic smell when rubbed, and of a pungent hot spicy taste, which is lasting on the palate, though imparted slowly.

The bark has been thought to be a useful antiscorbutic; but in this character it seems to possess no advantage over the other pungent aromatics, and is now generally superseded by the canella alba.

In natural order the Wintera has been ranked with the oleraceæ, but to this class it seems to have very little affinity.

ORD. XL. OLERACEÆ.

From *Olus*, Plants for food, pot-herbs.

SALSOLA KALI. PRICKLY SALT-WORT.

SYNONYMA. Kali spinosum cochleatum. *Bauh. Pin. p.* 289. Tragus sive Tragum Matthioli. *Park. Theat, p.* 1034. *Gerard Emac. p.* 1117. *Raii Hist. p.* 212. *Synop. p.* 159. *Moris Hist.* 5. *f.* 33. *f.* 11. Salsola Kali. *Huds. Ang. p.* 93. *Lightf. Scot. p.* 151. *Withering Bot. Arrang. p.* 257. *Flor. Dan. p.* 818.

Barilla, Natron, *Pharm. Lond.* Sal alkalinus fixus fossilis, *Pharm. Ed.* vulgo sal sodæ ex herba kali usta.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 311.

Ess. Gen. Ch. *Cal.* 5-phyllus. *Cor.* 0. *Caps.* 1-sperma. *Sem.* cochleatum.

Sp. Ch. S. herbacea decumbens, foliis subulatis spinosis scabris, calycibus marginatis axillaribus.

THE root is annual: the stem is angular, branched, smooth, decumbent, and rises about a foot in height: the leaves are long, narrow, awl-shaped, prickly, stand in ternaries upon the branches, and like the stem are frequently of a reddish hue: the flowers are sessile, axillary, whitish, yellowish, or of a rose colour: the calyx

Salsola Kali

Published by W. Phillips, Oct.1.1804.

is membranous, and consists of five obtuse indented segments, each of which is furnished with a small tooth-like process at its base: it has no corolla, unless the calyx be considered as such: the five filaments are short, slender, inserted into the divisions of the calyx, and crowned with simple antheræ: the germen is globular, and supports two styles with recurved stigmata: the capsule is oval, one-celled, involved in the calyx, and contains a large spiral seed formed like a snail-shell. It is a native of Britain, and common on the sea shore, flowering in July and August.

The annexed figure of the Kali is taken from a specimen which grew in the Royal Garden at Kew, and therefore has more luxuriancy and beauty than it ever assumes in its wild state, where its humble appearance might justify the epithet Sea-weed, so contemptuously spoken of by the Latin Poet, "projecta vilior alga." Not only this, but various other plants, on being burned, are found to afford the fossile alkali, and some in a greater proportion than the Kali,[a] consequently have an equal if not a superior claim to a place in this work.

These are Salsola sativa, *Lin.* Salsola Souda, *Lofling.*[b] Kali hispanicum supinum annuum Sedi foliis brevibus, s. Kali d'Alicante, *Jussieu.*[c] It grows abundantly on that part of the Spanish coast which is washed by the Mediterranean Sea. This species is deservedly first enumerated by Professor Murray, as it supplies all the best Soda consumed in Europe, which by us is called Spanish or Alicant Soda, and by the Spanish merchants *Barrilla de Alicante.*

Salsola Soda, *Lin.* Kali majus, cochleato semine. *Bauh. Pin.* Le Salicor, *Marcorelle.*[d] *Jacquin Hort. Vind. tab.* 68. This spe-

[a] Why the name Kali is adopted in the London Pharmacopœia for the fixed vegetable alkali, we are unable to devise.

[b] *Spanska Resa, p.* 132.

[c] *Mem. de l'Acad. de Sc. de Paris,* 1717. *p.* 73. *sqq. tab.* 2.

[d] *Mem. pres. à l'Acad. &c. tom.* 5. *p.* 531.

cies, which grows on the French Mediterranean coast, is much used in Languedoc for the preparation of this salt, which is usually exported to Sicily and Italy.

Salsola Tragus, *Lin.* affords an ordinary kind of Soda, with which the French frequently mix that made in Languedoc: this adulteration is also practised by the Sicilians, who distinguish the plant by the term selvaggia.[e]

Salicornia herbacea, *Lin. Flor. Dan. tab.* 303. Conf. *Baster, Opusc. subsec. tom.* 2. *p.* 107. *Pallas, Reise durch Russ. Reich. tom. i. p.* 479. Is common in salt marshes, and on the sea shore all over Europe. Linnæus prefers the Soda obtained from this plant to that of all the others;[f] but though the quantity of fossile alkali which it yields is very considerable, as a great portion of it is united with muriatic acid, it is mixed with much common salt.

Salicornia arabica, *Lin.* Mesembryanthemum nodiflorum, *Lin.* Plantago squarrosa, *Lin.* All these, according to Alpinus, afford this alkali. It has also been procured from several of the Fuci, especially F. vesiculosus, and distinguished here by the name Kelp.† Various other marine plants might also be noticed as yielding Barilla or Soda by combustion;‡ but the principal are confined to the genus Salsola and that of Salicornia. The Salsola Kali, on the authority of Rauwolf, is the species from which the salt is usually obtained in eastern countries.[g]

[e] Gronov. *Fl. orient. Rauwolfii, p.* 29.

[f] Nostratibus nulla aptior in hunc usum planta, quam dicta, *Mat. Med. p.* 36.

† The preparation of this is fully described by Borlase. See *Observations on the State of the Islands of Scilly, p.* 118.

‡ To these we may add Batis maritima, (Vide *Jacquin Hist. Stirp. Amer. p.* 127.) which on the coast of Carthagena is found to have a very salt taste, where it is prepared into soda, which is used for the purpose of making glass. The Carthaginians call this plant *barilla.*

[g] Alp. *Pl. Ægypt.*

It is to be regretted, that the different kinds of Soda which are brought to European markets, have not been sufficiently analysed to enable us to ascertain with tolerable certainty the respective value of each; and indeed while the practice of adulterating this salt continues, any attempts of this kind are likely to prove fruitless: the best information on this subject is to be had from Jussieu,[h] Marcorelle,[i] Cadet,[k] Borlase,[l] and Sestini.[m] In those places where the preparation of Soda forms a considerable branch of commerce, as on the coast of the Mediterranean, seeds of the Salsola are regularly sown in a proper situation near the sea,[n] which usually shoot above ground in the course of a fortnight. About the time the seeds become ripe, the plants are pulled up by the roots, and exposed in a suitable place to dry, where their seeds are collected: this being done, the plants are tied up in bundles, and burned in an oven constructed for the purpose, where the ashes are then while hot continually stirred with long poles. The saline matter, on becoming cold, forms a hard solid mass, which is afterwards broken in pieces of a convenient size for exportation.

According to chemical analysis Soda generally contains a portion of vegetable alkali and neutral salts, as common salt, and sometimes vitriolated tartar, or Glauber salt, likewise liver of sulphur, and not unfrequently some portion of iron is contained in the mass; it is therefore to be considered as more or less a compound, and its goodness is to be estimated accordingly. The Spanish Soda, of the best sort, is in dark coloured masses, of a bluish tinge, very

[h] *L. c.*

[i] *L. c.* [k] Vide *Mem. de l'Acad. &c.* 1767. *p.* 387.

[l] *L. c.*

[m] *Lettre della Sicilia, tom.* 3. *p.* 58. 76.

[n] According to the experiments of Du Hamel, the further from the sea the seeds are sown, the less fossil alkali, and the more vegetable alkali the plants contain. Vide *Med. de l'Acad.* 1767. *p.* 233.

ponderous, sonorous, dry to the touch, and externally abounding with small cavities, without any offensive smell, and very salt to the taste; if long exposed to the air, it undergoes a degree of spontaneous calcination. The best French Soda is also dry, sonorous, brittle, and of a deep blue colour, approaching to black. The Soda, which is mixed with small stones, which gives out a fetid smell on solution, and is white, soft, and deliquescent, is of the worst kind.*

The method of purifying this salt is directed in the London Pharm. under the article of Natron præparatum, and in the Edinburgh Pharm. under that of Sal alkalinus fixus fossilis purificatus: the pure crystals, thus formed of Alicant barilla, are colourless, transparent, lamellated, of a rhomboidal figure, and one hundred parts are found to contain twenty of alkali, sixteen of aerial acid, and sixty-four of water;° but upon keeping the crystals for a length of time, if the air be not excluded, the water evaporates, and they assume the form of a white powder. According to Imlin,[P] one ounce of water, at the temperature 62 of Fahr. dissolves five drams and fifteen grains of the crystals.‡ The same author also found that this salt preserved flesh from putridity longer than common salt, though not so long as the vegetable alkali. Natron has been thought useful in scrophulous disorders, but it is seldom given in its simple state.

In combination with vitriolic acid this alkali forms Glauber salt, or Natron vitriolatum; with nitrous acid, cubic nitre; with marine acid, common salt; with the sedative salt of Homberg, borax; with cream of tartar, Rochelle salt, or sel saignette.

To enter fully on the peculiar properties, or chemical qualities, of this alkali, would lead us too far, and is properly the province

* For this, and almost the whole on this subject, we are obliged to the late Professor Murray. See his *App. Med. vol.* 4.

° *Bergman in Scheffers.* P *Diss. de Soda.* §. 2.

‡ Kirwan says, 2, 5 times its weight of water at this temperature are required. *Min. p.* 176.

of chemistry. It is in common use in the manufacture of glass and soap, and as the latter is an artical of the Materia Medica, we shall proceed to consider its medicinal effects.

All the Soaps, of which there are several kinds, are composed of expressed vegetable oils, or animal fats, united with alkaline laxivia.[q] The Sapo ex oleo olivæ et natro confectus of the London Pharm. or the Sapo albus hispanus of the Edinb. Pharm. (white Spanish soap) being made of the finer kinds of olive oil, is the best, and therefore preferred for internal use.

Soap was imperfectly known to the ancients. It is mentioned by Pliny as made of fat and ashes, and as an invention of the Galls.[r] Aretæus, and others, inform us, that the Greeks obtained their knowledge of its medical use from the Romans. Its virtues, according to Bergius, are detergent, resolvent, and aperient, and its use recommended in jaundice, gout, calculous complaints, and in obstructions of the viscera. The efficacy of soap, in the first of these diseases, was experienced by Sylvius,[s] and since recommended very generally by various authors who have written on this complaint; and it has also been thought of use in supplying the place of bile in the primæ viæ.[t] The utility of this medicine, in icterical cases, was inferred chiefly from its supposed power of dissolving biliary concretions, but this medicine has lost much of its reputation in jaundice, since it is now known that gall stones have been found in many, after death, who had been daily taking soap for several months and even years.[u] Of its good effects in urinary calculous affections, we have the testimonies of several,

[q] The acid soap of Cornette. *Mem. de la Soc. de Med. de Paris, t. 3. p. 189.* is so little known as scarcely to be considered an exception.

[r] *Lib. 28. c. 12.*

[s] *Oper. Med. lib. 1. cap. 46.*

[t] Heberden, *Med. Trans. vol. 2. p. 166.*

[u] Dr. Heberden, *l. c. Phil. Trans. vol. 47. p. 472. Whytt's Works, p. 433.* *sqq.* Bergius, *Vet. Acad. Handl.* 1777. *p.* 309.

especially when dissolved in lime water, by which its efficacy is considerably increased; for it thus becomes a powerful solvent of mucus, which an ingenious modern author supposes to be the chief agent in the formation of calculi: it is however only in the incipient state of the disease that these remedies promise effectual benefit; though they generally abate the more violent symptoms where they cannot remove the cause. With Boerhaave, soap was a general medicine: for as he attributed most complaints to viscidity of the fluids, he, and most of the Boerhaavian school, prescribed it in conjunction with different resinous and other substances, in gout, rheumatism, and various visceral complaints. Soap is also externally employed as a resolvent, and gives name to several officinal preparations.

CHENOPODIUM VULVARIA. STINKING GOOSE-FOOT, Or, ORACHE.

SYNONYMA. Atriplex fœtida. *Pharm. Edinb. Bauh. Pin. p.* 119. Atriplex olida. *Gerard. Emac. p.* 327. *Raii Hist. p.* 198. Blitum fœtidum Vulvaria dictum. *Raii Synop, p.* 156. Atriplex olida sive sylvestris fœtida. *Park. Theat. p.* 749. Chenopodium caule diffuso, foliis obtuse lanceolatis. *Hal. Stirp. Helv. n.* 1577. Chenopodium olidum. *Curt. Flor. Lond.* Chenopodium Vulvaria. *Huds. Ang. p.* 107. *Lightf. Scot. p.* 149. *Withering. Bot. Arr. p.* 255.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 309.

Ess. Gen. Ch. *Cal.* 5-phyllus, 5-gonus. *Cor.* 0. *Sem.* 1, lenticulare, superum.

Sp. Ch. C. foliis integerrimis rhomboideo-ovatis, floribus conglomeratis axillaribus.

Chenopodium Vulvaria

Published by W. Phillips Oct.1st 1809.

THE root is annual: the stems are procumbent, channelled, branched, and grow from six to twelve inches in length: the leaves are numerous, entire, of an irregular rhomboidal form, or often egg-shaped, veined, of a mealy appearance, and stand alternately upon short footstalks: the flowers are very small, of a light green colour, and placed in clusters at the alæ of the leaves: the calyx consists of one pentagonal leaf, cut into five pointed concave divisions: there is no corolla: the five filaments are small, tapering, about the length of the segments of the calyx, and furnished with double round antheræ: the germen is orbicular, and supports two styles, terminated with obtuse stigmata: the seed is lenticular, and is inclosed by the calyx, which supplies the place of a capsule. It is usually found about old walls and rubbish, flowering in August.

This plant, in its recent state, has a nauseous taste, and a strong offensive smell, resembling that of putrid salt fish, and remaining long on the hands after touching the herb.* "It gives a strong impregnation to water both by infusion and distillation: the smell is extracted likewise by rectified spirit, and by this menstruum in some degree covered." This plant has been expunged from the Materia Medica of the London Pharmacopœia, but it is still retained in that of Edinburgh. Its virtues are ascribed to its remarkable fetor, from which it is inferred by Dr. Cullen to be a powerful antispasmodic, and especially recommended in hysterical affections.

Dr. Cullen says "it has been frequently employed in this "country with advantage; not however so frequently as might be "expected, as it is a plant, in its fresh state, not always ready at "hand, and in its dry state it loses all its sensible qualities. It "can only be employed therefore in its recent state, and the most "convenient formula is that of a conserve; and as it is not always "easy to reconcile our patients to it even in that state, it is not "employed so often as I could wish." *Mat. Med. vol. ii. p. 365.*

* Odoris virosi intolerabilis, ut qui vel attactu levi manus ita inficit, ut longo tempore vix possit elui. *Raii Hist. p.* 198.

RUMEX HYDROLAPATHUM. WATER DOCK.

SYNONYMA. Hydrolapathum. *Pharm. Edinb.* Lapathum. aquaticum, folio cubitali. *Bauh. Pin. p.* 116. Hydrolapathum magnum. *Gerard. Emac. p.* 389. Hydrolapathum majus. *Park. Theat. p.* 1225. *Raii Hist. p.* 171. *Synop. p.* 140. §. 1. Lapathum foliis longè lanceolatis, paniculis densissimus. *Hall. Stirp. Helv. n.* 1588. R. Hydrolapathum. *Hudson. Flor. Ang. p.* 154. *Withering. Bot. Arr. p.* 374. *Relhan. Flor. Cant. p.* 149.

Class Hexandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 451

Ess. Gen. Ch. *Cal.* 3-phyllus. *Petala* 3, conniventia. *Semen* unicum triquetrum.

Sp. Ch. R. floribus hermaphroditis: valvulis integris graniferis, foliis lanceolatis acutis. *Hudson, l. c.*

THE root is perennial, large, thick, externally black, internally whitish: the stem is erect, channelled, branched, green, and rises about five feet in height: the upper leaves are long, narrow, and on the flower-spikes linear and pointed; those at the bottom of the stem are near a foot and a half in length, of a narrow ovate form, somewhat indented at the edges, and stand upon long strong channelled footstalks: the flowers are numerous, and hang in whorled spikes upon slender peduncles: the calyx is divided into three narrow pointed permanent segments: the corolla consists of three petals, which are ovate, narrow, pointed: the stamina are six, short, slender, and furnished with erect double antheræ: the germen is turban-shaped, triangular, and supports three reflexed styles, terminated by rough glandular stigmata: the capsule is formed of the three petals, which by approaching each other assume a triangular form, and in this state are called *valves;*

Rumex Hydrolapathum

Published by W. Phillips, Oct.ʳ 1ˢᵗ 1809.

these are very large, ovate, pointed, slightly notched towards the base, and furnished with an oblong grain, extending down the middle of each valve: the seed is solitary, ovate, triangular. It is a native of England, growing in ditches, pools, and rivers, and flowers in July and August.

The Hydrolapathum of the Edinburgh Pharmacopœia is referred to the R. aquaticus of Linnæus, which is supposed to be a different species from the Hydrolapathum of Mr. Hudson,[a] though the same synonyms are ascribed to both. The plant here represented, which was found in the river Rodon, near Woodford Bridge, by having toothed valves, does not agree with the specific characters given by either of these authors; but it seems to correspond exactly with the description of it subjoined by Dr. Withering.[b]

The root, which is the part of this plant directed for medicinal use, has a strong austere taste, and readily strikes a black colour to a solution of ferrum vitriolatum, and yields its active matter both to water and to rectified spirit.

Many of the Lapatha[c] were formerly officinal herbs, of which the Water Dock has been esteemed to be the most efficacious, and by the Edinburgh College is still retained in the Materia Medica: the leaves, which manifest considerable acidity, are said to possess a laxative quality, and have therefore been used to obviate costiveness: the roots are strongly astringent, and have been much employed both externally and internally for the cure of scurvy;[d] especially when the gums are spongy, and frequent hæmorrhages supervene. It is also recommended in various other cutaneous

[a] *L. c.* [b] *L. c.*

[c] From λαπαζω, evacuo λαπτω, idem. Alston.

——— Si dura morabitur alvus,
Mitulus & viles pellent obstacula conchæ
Et Lapathi brevis herba. HORAT. SAT. 4. lib. 2. v. 27.

[d] Linnæus speaks highly of its use. Vide *Amæn. vol.* 4. *p.* 38. *Flor. Succ. p.* 118. And in *Lind's Treatise on the Scurvy, p.* 264.

defœdations, and in visceral obstructions: and in order to give the Hydrolapathum additional importance, Muntingius has taken great pains to prove that it is the *Herba Britannica* of the ancients;[e] but many physicians still think this root does not peculiarly differ from other astringents, and are sceptical enough to place no faith in the great virtues ascribed to it by Muntingius and Sir John Hill.

[e] *Diss. Hist. Med. de vera herba Britannica.* See *Dios. l.* 4. *c.* 2. *Plin. lib.* 25. *c.* 3.

The powdered root is said by Murray to be an excellent dentrifice. *App. Med. vol.* 3. *p.* 344.

RUMEX ACETOSA. COMMON SORREL.

SYNONYMA. Acetosa. *Pharm. Lond. & Edinb.* Acetosa pratensis. *Bauh. Pin. p.* 114. Oxalis crispa. *J. Bauh. ii. p.* 990. Oxalis seu Acetosa. *Gerard. Emac. p.* 396. Acetosa vulgaris. *Park. p.* 742. Lapathum acetosum vulgare. *Raii Synop. p.* 148. *Raii Hist. p.* 178. Lapathum sexubus distinctis, foliis sagittatis, hamis retrorsum porrectis. *Hal. Stirp. Helv. n.* 1597. R. Acetosa. *Withering. Bot. Arrang. p.* 376. *Relhan Flor. Cant. p.* 149. *Hudson's Ang.* 156.

Class Hexandria.* *Ord.* Trigynia. *Lin. Gen. Plant.* 451.

Ess. Gen. Ch. *Cal.* 3-phyllus. *Petala* 3, conniventia. *Sem.* 1, triquetrum.

Sp. Ch. R. Flor. dioicis, fol. oblongis sagittatis.

THE root is perennial, slender, long, and fibrous: the stalk is erect, channelled, branched at the top, partially of a purplish red colour, and usually rises from one to two feet in height: the

* This plant, according to the strictness of methodical system, ought to belong to the class Dioecia, as the flowers are distinctly male and female in different plants: our figure represents the former.

Rumex Acetosa.

Published by W. Phillips, Oct.r 1st 1805

radical leaves are narrow, oblong, arrow-shaped, of a bright green colour, and stand upon long footstalks, but those on the stem are without footstalks, and placed alternately: the flowers are produced in terminal branched spikes, partly tinged of a reddish colour, and stand upon short slender peduncles: the calyx is composed of three oval segments: the corolla consists of three petals, shaped like the divisions of the calyx: the six filaments are short, slender, and furnished with erect double antheræ: the germen is triangular, and supports three simple reflexed styles, with bearded stigmata: the seeds are naked, single, and of a triangular shape. It is common in meadows and pastures, and flowers in June.

Some writers have referred this plant to the Lapathum quartum[a] of Dioscorides, and to the Lapathum sylvestre, quod alii oxalidem appellant, of Pliny.[b] But as the word ὀξὺ has been indiscriminately used both to signify sharp, with respect to the taste of a plant, and in relation to the form of its leaves, there may be a doubt whether those authors have done right, in exclusively applying it in the former sense as in the name Acetosa.—The leaves of common Sorrel have an agreeable acid taste, like that of the Oxalis Acetosella, or Wood-sorrel, which we have before described; and as they are medicinally employed for the same purposes, what has been already said of that plant will in a great measure apply to this; which from being easily procured in great abundance may be conveniently substituted for it. Sorrel, taken in considerable quantity, or used variously prepared as food, will certainly be found of important advantage where a refrigerant and antiscorbutic regimen is required;[c] and we are told by Linnæus, that the Laplanders experience a serum acetosatum to be in this respect an useful and pleasant diet.[d]

[a] *L. ii. cap.* 108. [b] *L. xx. cap.* 21.

[c] See Morin in *Hist. de l'Ac. des Sciences*, 1708. p. 52. Barthol. *Act. Havn.* 1671, p. 35. Boerhaave *Hist. Plant. L. B. P. ii.* p. 540.

[d] *Flor. Lapp.* p. 94.

RHEUM PALMATUM. OFFICINAL RHUBARB.

SYNONYMA. Rhabarbarum. *Pharm. Lond. & Edin.* Rhabarbarum verum Med. *Hope, l. inf. cit.* Rheum *palmatum;* fol. palmatis acuminatis. *Lin. Spec. Plant. p.* 281. Conf. cel. Hope descriptionem in *Act. Philosoph. Londin. vol.* 55. *c. l.* Linnæi. jun. in *Pl. rarior. hort. Upsal.* fasc. 1. item cl. Sandemani in *Diss. de Rheo palmato;* et Milleri in ejus *Illustr. Syst. Sex.*

Class Enneandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 506.

Ess. Gen. Ch. Cal. 0. *Cor.* 6-fida, persistens. *Sem.* 1, triquetrum.

Sp. Ch. R. foliis palmatis acuminatis scabriusculis: sinu baseos dilatato, petiolis supra obsolete sulcatis margine rotundatis. *Aiton. Hort. Kew.*

THE root is perennial, thick, of an oval shape, and sends off long tapering branches; externally it is brown, and internally of a deep yellow colour: the stalk is erect, round, hollow, jointed, sheathed, slightly scored, branched towards the top, and rises to the height of six or eight feet: the radical leaves are numerous, large, rough, of a roundish figure, and deeply cut into lobes, and irregularly pointed segments, and stand upon long smooth round footstalks: the leaves which proceed from the stalk are placed at the joints, which they supply with membranous sheathes, and are successively smaller towards the upper part of the stem: the flowers terminate the branches, which they surround in numerous clusters, forming a kind of spike, and appear in April and May: the corolla divides into six obtuse segments, which are of a greenish white colour, and alternately smaller: the calyx is wanting: the filaments are nine, slender, about the length of the corolla, and furnished with oblong double antheræ: the style is very short, and ter-

Rheum palmatum

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minated by three reflected stigmata: the germen becomes a triangular seed, with membranous margins of a reddish colour. It is a native of Tartary in Asia.

It was not until the year 1732 that naturalists became acquainted with any plant which seemed to afford the Rhabarbarum Officinale,[a] when some plants, received from Russia by Jussieu at Paris, and Rand at Chelsea,[b] were said to supply this important desideratum, and as such were adopted by Linnæus, in his first edition of the Species Plantarum, under the name of Rheum Rhabarbarum. This however was not very generally received as the genuine Rhubarb plant; and with a view to ascertain this matter more completely, Kauw Boerhaave procured from a Tartarian rhubarb merchant the seeds of those plants, whose roots he annually sold, and which were admitted at Petersborough to be the true rhubarb: these seeds were soon propagated, and were discovered by De Gorter to produce two distinct species, viz. the R. Rhabarbarum of Linnæus, or as it has since been called R. undulatum, and another species, a specimen of which was presented to Linnæus, who declared it to be a new one, and was first mentioned in the second edition of the Sp. Plantarum in 1762, by the name of R. palmatum, (the plant we have figured). Previous to this time, De Gorter had repeatedly sent its seeds to Linnæus,[c] but the young plants which they produced constantly perished; at length

[a] The Rheum Rhaponticum of Linnæus, or Rhaponticum folio Lapathi majoris glabro of C. Bauhin, is generally supposed to be the Rhabarbarum of the ancients; "Alpinus aliique putant esse Ρα vel Ρῆον veterum, cujus radicem usurparunt. (*Vide Dioscorid. Mat. Med. lib.* 3. *cap.* 2.) Ipse Alpinus sibi circa annum 1610, stirpem ex Thracia procuravit, et hæc Patavio Venetiam primo, dein inde in Angliam ad Parkinsonium (Theat. Bot. p. 157.) prevenit." Murray Ap. Med. vol. 4. 354. It is well known that the ancient rhubarb had not the purgative power of the modern.

[b] Seeds of this species were also sent to Miller from Boerhaave at Leyden, by the title of "Rhabarbarum verum Chinense." See his Gard. Dict.

[c] See the letters between De Gorter and Linnæus, by Nozeman, in *Verhandelingen van het Genootschap to Rotterdam, vol.* 1. p. 455, and cited by Murray.

he obtained the fresh root, which succeeded very well at Upsal, and afterwards enabled the younger Linnæus to describe this plant[a] ann. 1767. But two years antecedent to this, Dr. Hope's account of the Rheum palmatum, as it grew in the botanic garden near Edinburgh, had been read before the Royal Society at London; and of the great estimation in which this plant was held by him, we have the following proof: "From the perfect similarity of this root with the best foreign rhubarb in taste, smell, colour, and purgative qualities, we cannot doubt of our being at last possessed of the plant which produces the true rhubarb, and may reasonably entertain the agreeable expectations of its proving a very important acquisition to Britain."[e] But from the relation we have given, it appears that the seeds of both R. undulatum, and R. palmatum, were transmitted to Petersborough, as those of the true Rhubarb: we are therefore to conclude, that the former species has an equal claim to this importance with the latter;† and from further enquiries made in Russia, there is the best authority for believing that the R. compactum also affords this very useful drug.[f] The seeds of the Rheum Palmatum were first introduced

[a] *Vide Plant. rarior. hort. Upsal. fasc.* 1.

[e] See *Philosoph. Trans.* for the year 1765.

† Bergius says, "Rheum palmatum producit *Rhabarbarum* in officinis *Sibiricum* appellatum; certe e seminibus a Bucharis e montosis Tibeti in Russiam apportatis, & postea satis hocce Rheum palmatum enatum est." (Vide Pallas *Reise*, &c. vol. 3. p. 157) "*Rhabarbarum* vero *Chinense* ex alia specie Rhei desumptum esse videtur." (Vide Georgi *Reise*, &c. vol. 1. p. 211.)

[f] The roots of the Rheum Palmatum were considered to be the best rhubarb, "donec viri celeberrimi, Pallas et Georgi, qui nuperrime in rem naturalem Russiæ itineribus suis inquisiverunt, scrupulos novos excitarent. Nam percontanti ill. Pallas Buchari, folia Rhei palmati sibi ignota declararunt, describentes contra ea folia veri Rhabarbari rotunda et in margine paucis modo incisionibus notata; unde concludit iste Rheum compactum potius fuisse intellectum. Huc pertinent supra ex cl. Georgi itinerario dicta (V. p. 360) de Cosacco quodam, qui Rheum undulatum pro vera specie significavit. Uterque etiam arbitratur, Rheum undulatum in montibus australioribus apertioribus et siccioribus, quales Tibetici sunt,

into Britain in 1762,* by Dr. Mounsey, (who sent them from Russia) and were supposed to be a part of those already mentioned; and since their prosperous cultivation by the late Professor of Botany at Edinburgh, the propagation of this plant has been gradually extended to most of our English gardens, and with a degree of success which promises in time to supersede the importation of the foreign root.[g]

Two sorts of rhubarb roots are usually imported into this country for medical use, viz. the Chineze,[‡] and the Turkey rhubarb;[h] the

præstantiorem posse radicem ferre quam montes frigidi et humidi Sibiriæ." *Murray l. c.* Pallas *Reise*, vol. 3. p. 156. Georgi *Reise*, vol. 1. p. 210. The seeds of the compactum were sent to Miller "from Petersborough, for the true Tartarian rhubarb, and were gathered from the plants growing on the spot, where the rhubarb was taken up; and upon trial of the roots, they are found to be as good as the foreign rhubarb." See his Dict. 6th edition.

* In the Hort. Kew. this plant is said to have been first cultivated in England by Miller in 1768.

[g] The Society for Encouragement of Arts, Manufactures, and Commerce, has laudably contributed to this national object, of which their Transactions published bear sufficient evidence.

‡ Colitur hoc a Chinensibus, præcipue in provincia Xensi sub nomine *Taikoang*. Bergius M. M. p. 332.

[h] "Olim, quum commercium in orientalibus regionibus per Natoliam fieret, Rhabarbarum ex portibus Turcicis ad Europæas transferebatur, unde nomen Rhabarbari Turcici." Murray, l. c. Mr. Bell (in his *Travels from St. Petersburg to divers parts of Asia)* says, that the best rhubarb grows plentifully on a long chain of mountains in Tartary, which extend from Selin to the lake Koko-nor near Tibet. At a proper age the roots are taken up, which, according to Pallas, is in April or May; but in Bell's account, this is said to be done in the autumn: they are then to be cleaned, the smaller branches cut off, and the larger roots divided into pieces of a proper size; after this they are perforated, and suspended to dry either upon the neighbouring trees, or in tents, or as some have reported, to the horns of sheep. The proper exsiccation of this root is certainly attended with considerable difficulty, and the cultivators of rhubarb in this country have not yet agreed in what mode this is to be best accomplished. The recent root in this process, according to the experiment of Sir William Fordyce, loses nearly nine-tenths of its weight." See *Trans. of the Society for Encouragement of Arts, &c.*

first is in oblong pieces, flattish on one side, and convex on the other; compact, hard, heavy, internally of a dull red colour, variegated with yellow and white, and when recently powdered appears yellow, but on being kept becomes gradually redder. The second is the most valuable, and is brought to us in roundish pieces, with a large hole through the middle of each; it is more soft and friable than the former sort, and exhibits, when broken, many streaks of a bright red colour. "The marks of the goodness of rhubarb are, the liveliness of its colour when cut; its being firm and solid, but not flinty or hard; its being easily pulverable, and appearing when powdered of a fine bright yellow colour; its imparting to the spittle, on being chewed, a deep saffron tinge, and not proving slimy or mucilaginous in the mouth; its taste is sub-acrid, bitterish, and somewhat styptic; the smell lightly aromatic."

The purgative qualities of rhubarb are extracted more perfectly by water than by rectified spirit: the root remaining after the action of water is almost if not wholly inactive; whereas after repeated digestion in spirit, it proves still very considerably purgative. The virtue of the watery infusion, on being inspissated by a gentle heat, is so much diminished, that a dram of the extract is said to have scarcely any greater effect than a scruple of the root in substance; the spirituous tincture loses less; half a dram of this extract proving moderately purgative. "The qualities of "this root are that of a gentle purgative, and so gentle that it is "often inconvenient by reason of the bulk of the dose required, "which in adults must be from half a dram to a dram. When "given in a large dose, it will occasion some griping, as other "purgatives do; but it is hardly ever heating to the system, or "shews the other effects of the more drastic purgatives. The "purgative quality is accompanied with a bitterness, which is "often useful in restoring the tone of the stomach when it has "been lost; and for the most part its bitterness makes it sit better "on the stomach than many other purgatives do. Its operation "joins well with that of neutral laxatives; and both together "operate in a lesser dose than either of them would do singly.

" Some degree of stipticity is always evident in this medicine,
" and as this quality acts when that of the purgative has ceased,
" so in cases of diarrhœa, when any evacuation is proper, rhubarb
" has been considered as the most proper means to be employed.
" I must however remark here, that in many cases of diarrhœa,
" no further evacuation than what is occasioned by the disease is
" necessary or proper.—The use of rhubarb in substance for keep-
" ing the belly regular, for which it is frequently employed, is by
" no means proper, as the astringent quality is ready to undo
" what the purgative had done; but I have found that the pur-
" pose mentioned may be obtained by it, if the rhubarb is chewed
" in the mouth, and no more is swallowed than what the saliva
" has dissolved. And I must remark in this way employed it is
" very useful to dyseptic persons. Analagous to this, is the use
" of rhubarb in a solution, in which it appears to me, that the
" astringent quality is not so largely extracted as to operate so
" powerfully as when the rhubarb was employed in substance."[k]

The officinal preparations of this drug are, a watery and a vinous infusion, a simple and a compound tincture. It is also an ingredient in different compositions, as the Elixir ex aloe et rheo, pilulæ stomachicæ, and some others.

[k] We have transcribed this account from Dr. Cullen, who has paid more than usual attention to this article. See *Mat. Med.* vol. 2. p. 529.

POLYGONUM BISTORTA. GREATER BISTORT, Or, SNAKEWEED.

SYNONYMA. Bistorta. *Pharm. Lond. & Edinb.* Bistorta. major. *Gerard. emac.* 399. Bistorta major vulgaris. *Park. Theat.* 391. Bistorta major rugosioribus foliis. *J. Bauh.* iii. 538. Bistorta radice minus intorta. *Bauh. Pin.* 192. *Raii Synopsis,* 147. *Raii Hist.* 186. *spec.* 1. Polygonum radice lignosa contorta, spica ovata, foliorum petiolis alatis. *Hal. Stirp. Helv.* No. 1558. *Withering. Bot. Arrang.* 406. *Flor. Dan.* 421. *Curtis Flor. Lond.*

Class Octandria. *Ord.* Trigynia. *L. Gen. Plant.* 495.

Ess. Gen. Ch. *Cor.* 5-partita, calycina. *Sem.* 1, angulatum.

Sp. Ch. P. caule simplicissimo monostachyo, foliis ovatis in petiolum decurrentibus.

THE root is about the thickness of a finger, perennial, crooked, rugose, of a firm texture, and of a reddish or flesh colour, covered with a brown rind, and furnished with numerous small fibres and creepers: the stalk is simple, bending, solid, round, smooth, swelled at the joints, enclosed by the sheaths of the stipulæ, and is a foot and a half or two feet in height; the radical leaves are ovalish, or rather heart-shaped, pointed, and stand upon long winged footstalks; the upper leaves embrace the stem, and are narrower and undulated. The flowers stand upon short footstalks, and terminate the stalk in an oblong close spike; the corolla is small, of tubular appearance, and divided into five oval obtuse segments, of a reddish white colour, and at the base supplied with several nectarious glands; the bracteal, or floral leaves, are membranous, withered, and each encloses two flowers; the filaments are tapering, white, longer than the corolla, and the antheræ are

Polygonum Bistorta

purple; the styles are three, about the length of the stamina; the stigmata are small and round; the germen is triangular, of a red colour, and the seeds are brown and remarkably glossy.

Bistort [a] is a native of Britain;* it grows in moist meadows,[b] and flowers in May and September. Every part of the plant manifests a degree of stipticity to the taste, and the root is esteemed to be one of the most powerful of the vegetable astringents. Lewis says, that this "astringent matter is totally dissolved both by water and rectified spirit; the root, after the action of a sufficient quantity of either menstruum, remaining insipid: on inspissating the tinctures, the water and spirit arise unflavoured, leaving extracts of intense stipticity." [c]

The root of Bistort was formerly considered to be alexipharmic and sudorific; but its uses seem only to be derived from its styptic powers; it is therefore chiefly indicated in hæmorrhages and other immoderate fluxes. Dr. Cullen observes, that the Bistora, "both by its sensible qualities, and by the colour it gives with green vitriol, and by the extracts it affords, seems to be one of the strongest of our vegetable astringents, and is justly commended for every virtue that has been ascribed to any other. As such we have frequently employed it, and particularly in intermittent fevers, and in larger doses than those commonly mentioned in Materia Medica writers. Both by itself, and along with gentian, we have given it to the quantity of three drams a day." [d] The dose of the root in substance is from a scruple to a dram.

[a] Bistora, *quasi* bis torta, twice twisted, or wreathen, is a modern name. Alston M. M. i. 339. "Radix est serpentis modo intorta." Whence it was called Serpentaria, Colubrina, and Dracunculus. And it has been variously considered to be the Oxylapathum, Britannica, and Limonium of the ancients. Vide Bauh. Pin. 192. Matth. 946.

* In the North of England this plant is known by the name of Easter-Giant, and the young leaves are eaten in herb pudding.

[b] It grows about *Battersea*, and by the side of *Bishop's Wood* near *Hampstead*. Curt. Flor. Lond. [c] Mat. Med. 154. [d] Mat. Med. ii. 40.

LAURUS CINNAMOMUM. CINNAMON-TREE.

SYNONYMA. Cinnamomum. *Pharm. Lond. & Edin.* Cassia cinnamomea. *Herm. Lugd. Bat.* 129. t. 655. *Pluk. Almag.* 88. Cinnamomum foliis latis ovatis frugiferum. *Burm. Zeyl.* 62. *t.* 27. Arbor canellifera Zeylanica, cortice acerrimo seu præstantissimo, qui Cinnamomum Officinarum. *Breyn. Prod.* ii. 17. Cinnamomum sive Canella Zeylanica. *Bauh. Pin.* 408. Canella seu Cinnamomum vulgare. *Bauh. Hist.* 1446. The Cinnamon-tree of Ceylon. *Raii Hist.* 1561. Laurus Cinnamomum. *Jacq. Americ.* p. 59. t. 117. Rasse Coronde. *Zeylonarum.*

Class Enneandria. *Ord.* Monogynia. *L. Gen. Plant.* 509.

Ess. Gen. Ch. *Cal.* 0. *Cor.* calycina, 6-partita. *Nectarium* glandulis 3, bisetis, germen cingentibus. *Filamenta* interiora glandulifera. ***Drupa*** 1-sperma.

Sp. Ch. L. foliis trinerviis ovato-oblongis: nervis versus apicem evanescentibus.

THIS valuable and elegant laurel rises above twenty feet in height; the trunk extends about six feet in length, and one foot and a half in diameter; it sends off numerous branches, which are covered with smooth bark, of a brownish ash colour; the leaves stand in opposite pairs upon short footstalks; they are of an ovalish oblong shape, obtusely pointed, entire, firm, from three to five inches long, of a bright green colour, and marked with three whitish longitudinal nerves; the common peduncles grow from the younger branches, and after dividing, produce the flowers in a kind of paniculated umbel. The petals are six, oval, pointed, concave, spreading, of a greenish white or yellowish colour, and the three outermost are broader than the others; the filaments are nine, shorter than the corolla, flattish, erect, standing in ternaries, and, at the base of each of the three innermost, two small round

Laurus Cinnamomum.

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glands are placed; the antheræ are double, and unite over the top of the filament; the germen is oblong, the style simple, of the length of the stamina, and the stigma is depressed and triangular: the fruit is a pulpy pericarpium, resembling a small olive, of a deep blue colour inserted in the corolla, and containing an oblong nut.

The true Cinnamon-tree is a native of Ceylon, where, according to Ray, it grows as common in the woods and hedges as the hazel with us, and is used by the Ceylonese for fuel and other domestic purposes. Its cultivation was first attempted in this country about the year 1768 by Mr. Philip Miller, who observes, "that the Cinnamon and Camphire trees are very near akin," and that if the berries of these trees were procured from the places of their growth, and planted in tubs of earth, the plants might be more easily reared than by layers, which require two years or more before they take root. We wish, however, to caution those who make the trial, to plant this fruit immediately upon being obtained from the tree, for Jacquin remarks, "Cæterum ad sationem transportari semina nequeunt, quum paucos intra dies nuclei corrumpantur, atque effœti evadunt."[a] Ray seems to think that the Cassia cinnamomea of Herman, the Cassia lignea, and the Cassia fistula of the ancient Greek writers, were the same, or varieties of the same species of plant.[b] But an inquiry of more importance is, whether the Cinnamon of Ceylon is of the same species as that

[a] Jacquin's Americ. At Ceylon, "it is particularly owing to a certain kind of Wild Doves, which, from their feeding on the fruit of the Cinnamon-tree, they call *Cinnamon-eaters*, that these trees grow so plentifully in this island." A Seba Ph. Trans. vol. 36. p. 105.

[b] It is necessary to observe, that the ancient signification of these names is very different from the modern. The younger branches of the tree, with their bark covering them, were called by the Greek writers κινναμωμον Cinnamomum, and sometimes Ξυλοκασία, or Cassia lignea; but when they were divested of their bark, which by its being dried became tubular, this bark was denominated κασία συριγξ, or cassia fistula.—But as in process of time the wood of this tree was found useless, they stripped the bark from it, and brought that only; which custom prevails at this day. See account of the Cinnamon-tree by Dr. Watson, Phil. Trans. vol. 47.

growing in Malabar, Sumatra, &c. differing only through the influence of the soil and climate in which it grows, or from the culture or manner of curing the Cinnamon. Mr. White and Mr. Combes, who have investigated this subject with considerable attention, agree with Gracias, and determine this question in the affirmative.*

* According to many botanical writers the principal marks of distinction of these plants are to be found in the leaf, which in the Cinnamon of Ceylon is more oval and less pointed than the others, and the nerves do not reach to the margin; while in the Cinnamon of Sumatra they are said to be continued to the extremity of the leaf.—Respecting the bark it is well known to be less warm and grateful to the taste, manifesting that viscosity on being chewed which is never observable in the Ceylon Cinnamon. But Mr. White, with the assistance of Dr. Matty, carefully compared the specimens of the Cinnamon-tree, (commonly called Cassia) which he had from Sumatra, with those from Ceylon, preserved in the British Museum, which were the collections of Boerhaave, Courteen, Plukenet, and Petiver, and found the difference so inconsiderable, as fully to justify his opinion. In Murray's edition of the Systema Veg. we find superadded to the description of Cassia, "Esse modo Varietatem præcedentis, (Cinnam.) foliis angustioribus et obtusioribus, Thunberg in Act. Scockh. 1780. p. 56. The difference of the bark itself it thus stated by Ray, "Officinæ nostræ Cassiam ligneam a Cinnamomo seu Canella distinctam faciunt, Cassiam Cinnamomo crassiorem plerumque esse colore rubicundiorem, substantiâ duriorem, solidiorem & compactiorem, gustu magis glutinoso, odore quidem & sapore Cinnamomum aptius referre, tamen Cinnamomo imbecilliorem & minus vegetam esse ex accurata observatione. Tho. Johnson." But Mr. White says, "From the specimens I shall now produce, it will most plainly appear, that these differences are merely accidents, arising from the age of the Canella, the part of the tree from whence it is gathered, and from the manner of cultivating and curing it." And he observes, "If any conjecture can arise from hence, it may be, that the Cinnamon of Ceylon was formerly, as well as that of Sumatra and Malabar, called Cassia; but that the Dutch writers, being acquainted with the excellent qualities which the ancients ascribed to their Cinnamon, chose to add the name Cinnamon to that of Cassia; and in process of time they have found the name of Cinnamon more profitable than that of Cassia, by which we chuse to call our Canella, to our national loss of many thousands a year." (Phil. Trans. vol. 50. p. 887.) How far the reasoning of Mr. White is really well founded, we leave to the judgement of others; it may however be remarked, that his opinion is not a little supported, from the considerâtion that the Cinnamon plant varies exceedingly, even in the island of Ceylon, where Burman collected nine different sorts, and Seba actually describes ten.

The use of the Cinnamon-tree is not confined to the bark, for it is remarkable that the leaves, the fruit, and the root, all yield oils of very different qualities, and of considerable value: that produced from the leaves is called Oil of Cloves, and Oleum Malabathri: that obtained from the fruit is extremely fragrant, of a thick consistence, and at Ceylon is made into candles, for the sole use of the king; and the bark of the root not only affords an aromatic essential oil, or what has been called Oil of Camphor, and of great estimation for its medical use, but also a species of camphor, which is much purer and whiter than that kept in the shops.

The spice, so well known to us by the name of Cinnamon, is the inner bark of the tree;[c] and those plants produce it in the most perfect state, which are about six or seven years old, but this must vary according to circumstances. Seba says, "Those which grow in the vallies, where the ground is a fine whitish sand, (and there are many such vallies in the island of Ceylon) will in five years time be fit to have the bark taken off. Others, on the contrary, which stand in a wet slimy soil, must have seven or eight years time to grow before they are ripe enough." And the bark of those trees, which stand in a very dry soil, and much exposed to the sun, has often a bitterish taste, which Seba attributes to "the camphor being by the sun's rays rendered so thin and volatile, that it rises up and mixes with the juice of the tree." The bark, while on the trees, is first freed of its external greenish coat; it is then cut longitudinally, stripped from the trees, and dried in sand, till it becomes fit for the market, when it is of a reddish yellow, or pale rusty iron colour, very light, thin, and curling up into quills or canes, which are somewhat tough, and of a fibrous texture. It is frequently mixed with cassia, which is distinguished from the

[c] "If you taste the inner membrane of the bark when fresh taken off, you will find it of most exquisite sweetness, whereas the outward part of the bark differs but very little in taste from the common trees; but in drying, the oily and agreeable sweetness communicates and diffuses itself throughout the whole outward part." Seba l. c.

Cinnamon by its taste being remarkably slimy. This bark is one of the most grateful of the aromatics; of a very fragrant smell, and a moderately pungent, glowing, but not fiery taste, accompanied with considerable sweetness, and some degree of astringency. Its aromatic qualities are extracted by water in infusion, but more powerfully by it in distillation, and in both ways also by a proof spirit applied. Cinnamon is a very elegant and useful aromatic, more grateful both to the palate and stomach than most other substances of this class: by its astringent quality, it likewise corroborates the viscera, and proves of great service in several kinds of alvine fluxes, and immoderate discharges from the uterus. The aromatic principle is an essential oil, which is obtained by distilling at once large quantities of this spice, or rather cassia, which is usually employed in these operations; and the oil thus separated is so extremely pungent, that on being applied to the skin it produces an eschar: in doses of a drop or two diluted, by means of sugar, mucilages; &c. it is one of the most immediate cordials and restoratives in languors, singultuses, and all debilities. This oil is imported from the East-Indies, and a tincture, a simple, and a spirituous water, are directed by the Pharmacopœias to be prepared from this spice.

LAURUS SASSAFRAS. SASSAFRAS TREE.

SYNONYMA. Sassafras. *Pharm. Lond. & Edinb.* Cornus mas odorata, folio trifido, margine plano, Sassafras dicta. *Pluk. Alm.* 120. *Catesb. Carolin.* 1 p. 55. Sassafras sive lignum pavanum. *J. Bauh.* i. 483. Sassafras, arbor ex Florida, ficulneo folio. *Bauh. Pin.* 431. Sassafras. *Gerard. Emac.* 1525. *Park. Theat.* 1606. *Raii Hist.* ii. 1568. Laurus foliis integris trilobisque. *Trew. Ehret.* t. 69. *Duham. Arb.* 1. p. 350. *Kalm. Canad.* 2. p. 270.

Laurus Sassafras

Published by W. Phillips Nov.r 5.th 1809.

Class Enneandria. *Ord.* Monogynia. *L. Gen. Plant.* 503.

Ess .Gen. Ch. *Cal.* 0. *Cor.* calycina, 6-partita. *Nectarium* glandulis 3, bisetis, germen cingentibus. *Filamenta* interiora glandulifera. *Drupa* 1-sperma.

Sp. Ch. L. fol. trilobis integrisque.

THE Sassafras tree rises sometimes to the height of twenty or thirty feet,* and is about twelve or fifteen inches in diameter, but it is commonly of much less growth, and is divided towards the top into several crooked branches: the bark of the young shoots is smooth and green, of the old trunks it is rough, furrowed, and of a light ash colour: the leaves vary both in form and size, some being oval and entire, others cut into two or three lobes; they are all of a pale-green colour, veined, downy on the under side, and placed alternately upon long footstalks: the flowers are produced in pendent spikes or panicles, which spring from the extremities of the shoots of the preceding year; they appear in May and June, and are generally male and female upon different trees: the corolla is divided into six leaves, which are narrow, convex, and of a dingy yellow colour: the male flowers have nine [a] filaments, crowned with round antheræ; the bracteæ are linear, and placed at the base of the pedicles; there is no calyx, and the berries produced by the female flowers are similar in shape and colour [b] to those of the cinnamon.—See plate.

The Sassafras tree is a native of North America, [c] and appears to

* Vide Marshall's Arbustrum Americanum, p. 75.

[a] Miller says eight, but in the specimen figured, which was procured from a male tree in the King's garden at Kew, nine stamina were observed in all the flowers.

[b] Marshall, l. c.

[c] "G. Piso Monardis descriptioni circa lignum Sassafras non acquiescendum esse ait, siquidem affirmat Sassafras Floridæ lignum decorticatum vix ullius dignitatis esse, cùm Brasiliense eximiæ dignitatis & virtutis habeatur, atque à cortice liberatum in aliquot annos immune servatur." Vide Raii Hist. p. 1569.

have been cultivated in England sometime before the year 1633, for in Johnson's edition of Gerard, he says, " I have given the figure of a branch taken from a little (Sassafras) tree, which grew in the garden of Mr. Wilmote at Bow."‡ It is said that the Sassafras tree was first discovered by the Spaniards in 1538, when they possessed themselves of Florida ;[d] and the wood was first imported into Spain about the year 1560, where it acquired great reputation for curing various diseases.[e] It is now usually imported here in long straight pieces, very light, of a spongy texture, and covered with a rough fungous bark. It has a fragrant smell, and a sweetish aromatic subacrid taste: the root, wood, and bark, agree in their medical qualities, and are all mentioned in the pharmacopœias; but the bark is the most fragrant, and thought to be more efficacious than the woody part, and the small branches are preferred to the large pieces. " The virtues of Sassafras are extracted totally by spirit, but not perfectly by water. Distilled with the latter it yields a fragrant essential oil of a penetrating pungent taste, and so ponderous as to sink in water. Rectified spirit extracts the whole taste and smell of Sassafras, and elevates nothing in evaporation; hence the spirituous extract proves the most elegant and efficacious preparation, as containing the whole virtue of the root." Sassafras, according to Bergius, is " sudorifera, diuretica, purificans," and useful in " rheumatism, cutaneous diseases, and ulcers." Lewis says that it is used as a mild corrobo-

‡ This account differs from that given by Ray, who says, that — " Tho. Johnsonus in Gerardo suo emaculato: qui Sassafras arbusculæ â se visæ in horto D. Guliel. Coys Stratfordiæ propé Londinum ramulum describit & depingit, &c. Hist. l. c.

[d] It is called cinnamon-wood on account of its smell, which made the Spaniards, when they conquered Florida, in 1538, under Ferdinand de Soto, hope to find that valuable spicery there, which grows only in Ceylon." *Savary Dict.* ii. 1487.

[e] " Ligni quoddam genus ex Florida, nunc recens in Hispaniam invehitur, cujus ante paucos annos, notitiam Gallus quidam mihi dedit, ejus facultates mirum in modum prædicans adversus varios morbos, ut Galli experti erant, ab incolis edocti. Dicitur Iudis Pavame, Gallis, nescio quam ad causam, Sassafras." *Monard. Hist. ed. anno* 1569.

rant, diaphoretic, and sweetener in scorbutic, venereal, cachectic, and catarrhal disorders.[f] Its medical character was formerly held in great estimation, and its sensible qualities, which are stronger than any of the other woods, may have probably contributed to establish the opinion so generally entertained of its utility in many inveterate diseases; for soon after its introduction into Europe, it was sold at a very high price,[g] and its virtues were extolled in publications professedly written on the subject.[h] It is now, however, thought to be of very little importance, and seldom employed but in conjunction with other medicines of a more powerful nature. Dr. Cullen "found that a watery infusion of it taken *warm*, and pretty *largely*, was very effectual in promoting sweat; but (he adds) to what particular purpose this sweating was applicable, I have not been able to determine."[i] In some constitutions Sassafras, by its extreme fragrance, is said to produce head-ach; to deprive it of this effect the decoction ought to be employed.

Sassafras is an ingredient in the decoctum sarsaparillæ compositum, or decoctum lignorum; but the only officinal preparation of it is the essential oil, which may be given in the dose of two drops to ten. Watery infusions made both from the cortical and woody part, rasped or shaved, are commonly drunk as tea; but the spirituous tincture, or extract, which contains both the volatile and fixed parts of this medicine, appears to be preferable.

[f] Lewis M. M.

[g] Viz. 50 livres per pound.

[h] See Sassafrasologia, &c. published by J. R. Bremane, 1627.

[i] Cullen's M. M. ii. 200.

LAURUS NOBILIS. COMMON SWEET-BAY.

SYNONYMA. Laurus. *Pharm. Lond. & Edinb.* *Dodon.* 849. *Camer. Epit.* 60. *Gerard. Emac.* 1407. *J. Bauh. Hist.* 1. 405. The Common Bay-tree. *Raii Hist.* 1688. Laurus vulgaris. *Bauh. Pin.* 460. Laurus major sive latifolia. *Park. Parad.* 598. Laurus nobilis. *Trew. nov. act. ph. med.* A. N. C. vol. 2. p. 381. Laurus foliis ovato-lanceolatis, ramis florigeris, folio brevioribus. *Hall. Stirp. Helv.* n. 1602. *Arbor* Δαφνη *Fructus* Δαφνιδες *Dioscor.*

Class Enneandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 503.

Ess. Gen. Ch. *Cal.* 0. *Cor* calycina, 6-partita. *Nectarium* glandulis 3 bisetis, germen cingentibus. *Filamenta* interiora glandulifera. *Drupa* 1-sperma.

Sp. Ch. L. foliis venosis lanceolatis perennantibus, floribus quadrifidis.

THE Bay-tree never rises to any considerable height, but usually sends off many radical shoots, which grow close and bushy:[a] the bark is smooth, and of a dark olive colour: the leaves are elliptical, pointed, smooth, veined, entire, often waved at the margin, of a shining green colour, and stand erect upon short channelled foot-stalks: the flowers come forth in April and May, and, like those of the Sassafras, are male and female upon different plants;* they appear in clusters of three or four together, standing upon short peduncles at the axillæ of the leaves; the corolla divides into four oval leaves, which stand erect, and are of a yellowish white colour; the stamina vary in number, from seven to thirteen; there is no

[a] Tum spissa ramis laurea fervidos
Excludet ictus.—Hor. lib. ii. Ode xv.

* We have figured the male plant.

Laurus nobilis

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calyx, and the glands, &c. correspond with the generic description: the style of the female flowers is very short, and the germen becomes an oval berry, covered with a dark green rind, and separable into two lobes or cotyledons.

This tree is a native of Italy, and other southern parts of Europe, and the first account we have of its cultivation in England is given by Turner in 1562;[b] it is a handsome evergreen, and now very common in the shrubberies and gardens of this country. The leaves and berries possess the same medicinal qualities, both having a sweet fragrant smell, and an aromatic astringent taste.[c]—The berries are imported from the Streights, and are much stronger than the leaves. "In distillation with water the leaves yield a small quantity of very fragrant essential oil: with rectified spirit they afford a moderately warm pungent extract. The berries yield a larger quantity of essential oil: they discover likewise a degree of unctuosity in the mouth, give out to the press an almost insipid fluid oil, and on being boiled in water a thicker butyraceous one, of a yellowish green colour, impregnated with the flavour of the berry."[d]

[b] Turn. Herb. part 2. fol. 32. in Hort. Kew. cit.

[c] Lewis M. M. 382.

[d] Their spicy warmth has recommended them for culinary purposes, and in this way they were much used by the Romans, "Apud veteres Romanos inter cibi condimenta in culinis frequenter adhibebantur, ut testatur Apicius Cœlius." And the leaves both of this plant, and the common laurel, are frequently used in custards, &c. But the practice has by many been discontinued, since a recent and fatal proof of the poisonous qualities of the latter was made public. To such we may observe, that the common laurel, or Prunus Lauro cerasus of Linnæus, differs very materially from the plant here represented, both in its effects and in its botanical characters. The common sweet bay may be thus used not only with safety but with the advantage of assisting digestion: and it has even been thought to obviate the poisonous effects of the laurel: "Aqua stillatitia Lauri, secundum Clar. Cantwell, antidotus est aquæ stillatitiæ Lauro cerasi." (Hall. l. c.) It may be remarked, however, that the deleterious part of the laurel is the essential oil which requires to be separated by distillation, in order to become an active poison.

The Laurus of honorary memory,[d] the distinguished favourite of Apollo,[f] may be naturally supposed to have had no inconsiderable fame as a medicine;[g] but its pharmaceutical uses are so limited in the present practice, that this dignified plant is now rarely employed, except in the way of enema, or as an external application; thus, in the London pharmacopœia the leaves are directed in the decoctum pro fomento, and the berries in the emplastrum cumini. The berries however appear to possess some share of medicinal efficacy,[h] and if we do not allow them to be so extensively useful as represented by J. Bauhin, Tournefort,

[d] Laurus planta est, Apollini lucidissimo sacra: quin etiam a Jove colitur. It was not only generally worn as a triumphal crown, but, by the Emperor Tiberius, as a protection against thunder. "Laurum fulmine non percuti veteribus persuasum fuit." "Eadem superstitione nititur observatio illa de crepitu quem folia & virgæ Lauri inter urendum edunt. Nam si crepuissent abundè ac sonatiùs, haud dubie portendi felicem eventum rebantur: quòd si tacita deflagrassent, tristem & mauspicatum." The Laurus, as well as the Olive, was considered as an emblem of peace, and called Laurus pacifera, "si ejus rami prætendebantur inter armatos hostes, firmum quietis erat indicium." *(Matthiol)* Musas in Laurinis montis Parnassi sylvis sidere finxerunt. Eâdem coronabantur Pœtæ. Necnon adhuc quibusdam in locis novi Medicinæ Doctores Lauro coronantur: inde fortasse Laureandi & Laureati dicuntur. *(Geoff.)*

[f] Cui Deus. At conjux quoniam mea non potes esse,
Arbor eris certe, dixit, mea. Semper habebunt
Te coma, te citharæ, te nostræ, Laure, pharetræ.
Tu ducibus Latiis aderis, cum læta triumphum.
Vox canet; & longæ visent Capitolia pompæ.
Postibus Augustis eadem fidissima custos
Ante fores stabis; mediamque tuebere quercum.
Utque meum intonsis caput est juvenile capillis;
Tu quoque perpetuos semper gere frondis honores.

OVID. MET. I. v. 557.

[g] "Laurus apud veteres medicos magnum habuit in medicina usum, & veluti panacea æstimata fuit." Geoff.

[h] Haller says, "Calida & aromatica planta, semine, potissimum, cujus vires a medicis nondum pro dignitate per experimenta exploratæ sunt." l. c.

Laurus Camphora

Published by W. Phillips, Dec.r 1.st 1809.

Geoffroy, and some others, yet we have no doubt of their virtus, stomachica, resolvens, pellens menses, urinam, sudorem, as stated by Bergius, who recommends them only in hysteria. They have been long thought to act with peculiar power upon the uterine system, and on this account we are cautioned against their use in pregnancy.[i] An infusion of the leaves is sometimes drunk as tea; and the essential oil of the berries may be given from one to five or six drops, on sugar, or dissolved by means of mucilages, or in spirit of wine.

[i] Baccas Lauri interne sumptas, abhorret cl. Spielmann, ob vim prout dicit, infamem abortum promovendi, sanguinemque multum exæstuandi, etiam ubi pauca solum grana data fuerint. In praxi hodierna raro exhibentur baccæ; vidi tamen plures, etiam fœminas, quæ pulverem e seminibus Capsici & baccis Lauri, supra memoratum, innoxie sumpserunt, sæpe per octiduum. Bergius M. M. 324.

LAURUS CAMPHORA. CAMPHOR-TREE.

Arbor ex qua obtinetur Camphora, *Pharm. Lond. & Edinb.*

SYNONYMA. Camphora officinarum. *Bauh. Pin. p.* 500. *Park. Theat. p.* 1575. Laurus camphorifera Japon. vulgo Kus noki. *Kæmpfer. Amœn. exot. p. 770.* Arbor camphorifera Japonica. *Breyn. exot. plant. cent. p.* 11. *Prod. p.* 7. et *icon. rarior. p.* 16. *Raii Hist. p.* 1679. Arbor camphorifera Japonica, foliis laurinis, fructu parvo globoso, calyce brevissimo. *Commel. Hort. Amstel. tom. i. p.* 189. *tab.* 95. Conf. *Thumb. Fl. Japon. p.* 178. *Trew. in Nov. act. nat. cur. tom. ii. App. p.* 358. *& Burm. Fl. Ind. p.* 92. *& Flor. Cap. Prodr. p.* 12.

Class Enneandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 503.

Ess. Gen. Ch. Cor. calycina, 6-partita. *Nectarium* glandulis 3, bisetis, germen cingentibus. *Filamenta* interiora glandulifera. *Drupa* 1-sperma.

Sp. Ch. L. foliis triplinerviis lanceolato-ovatis.

THIS tree grows to a considerable height, dividing into many branches, covered with smooth greenish bark: the leaves are ovate, lance-shaped, entire, smooth, nerved, on the upper side of a pale yellowish green colour, on the under glaucous, and stand upon long footstalks: the flowers are small, white, standing upon short pedicles, terminating the common peduncles, which are long, naked, erect, and proceed from the alæ of the leaves: there is no calyx: the corolla is composed of six small ovate concave unequal petals: the nectarium consists of three tubercles, terminating in bristly points, surrounding the germen: the filaments are nine, shorter than the corolla, and furnished with round antheræ: the inner filaments are supplied at the base with two round glands: the germen is roundish: the style is simple, about the length of the filaments, and terminated by an obtuse stigma: the fruit resembles that of the Cinnamon.

This tree is a native of Japan, growing abundantly in the woods of the western part of the island. It was first cultivated in Britain by Miller,[a] and by being easily propagated it is now a common green-house plant in this country, where, though it often seems sufficiently luxuriant and healthy, it very rarely produces flowers: so that for the annexed figure we are obliged to Dr. Smith, who supplied us with a specimen from his Herbarium.

Although this is the tree from which Camphor is chiefly obtained, and from which all Europe is supplied with this drug,[b] many other vegetables however are well known to afford a similar substance; of these, that most worthy of notice is a large tree, indigenous to the islands of Borneo and Sumatra, which, though a different genus, somewhat resembles that of the Laurus,[c] and is

[a] *Aiton. Hort. Kew.*

[b] *Murray, App. Med. vol. iv. p. 446.*

[c] We have seen the fruit of this tree, (in the possession of Dr. Smith) which has not the least affinity to that of any of the genus Laurus.

very fully described by Houttuyn;[d] also by Grimm,[e] Miller,[f] Marsden,[g] and others; by whom we are told it grows sometimes to the height of 100 feet, exceeds fifteen in circumference, and yields the Camphor in a native concrete state, in both these islands; but that of the former is accounted the best, and obtained more abundantly than in Sumatra.

The Camphor is found to lodge every where in the interstices of the fibres of the wood, also in the pith, but most abundantly in the crevices and knots of this tree; which, in order to obtain the drug, must be cut down, its bark taken off, and the wood split. The larger pieces which in the Malay language are called *Copalla* (head), are first picked out from the upper part of the tree, afterwards the smaller, named *Poeruet* (belly), and lastly that which adheres to the wood, and is procured by rasping, denominated *Caki*, or feet.

This native Camphor, when freed from woody fibres, is consumed in the East, and sold, even to the Japanese, at a very high price: it does not suffer so much loss or change, on exposure to the open air, as that imported from Japan, and appears in every respect to be a much purer and more valuable medicine.[h] From this tree likewise exudes an oily or rather resinous fluid, named oil of Camphor;[i] which is of great estimation for its external use in relieving pains, and resolving inflammatory tumours.

Of the other vegetables which yield Camphor, we have already

[d] See *Verhandelingen door de Maatschappye d. Weetensch. te Harlem*, *vol. xxi. p.* 266. *sqq. tab.* 8. He calls it, Laurus foliis ovalibus acuminatis lineatis, floribus magnis tulipaceis.

[e] Arbor Camphoræ. *Eph. nat. cur. Dec.* 2. *An.* 1. *p.* 371. *fig.* 33.

[f] See an account of Sumatra by Charles Miller in *Phil. Trans. vol.* 68. *p.* 169.

[g] *Hist. of Sumatra. p.* 121.

[h] V. Rademacher in *Verhand. van het Batavisch Genootschap. d. Wetens. vol.* 2. *p.* 127.

[i] See authors cited above, and Ten Rhyne *Litt. ad Jac. Breynium in Prodr. p.* 13.

noticed the Laurus Cinnamon, to which might be added several others which contain some proportion of this substance.[k]

The Camphor brought to Europe is to be considered as the essential oil of the tree here represented, obtained at Japan by a kind of distillation, or sublimation, and for this purpose the root is said by Ten Rhyne[l] to be the only part employed; but according to Cleyer[m] the Camphor is procured not only from the root, but also from the young branches; and by Kæmpfer and Thunberg both the root and wood are mentioned as affording this valuable medicine.[n]

Abbé Grosier, and the author of *Flora Cochinchinensis,** inform us, that this tree, which is called *Tchang,* grows in China to an immense size; and the former states the process for obtaining the Camphor by the Chinese to be as follows: "They take some branches, fresh from the *Tchang,* chop them very small, and lay them to steep in spring water for three days and three nights. After they have been soaked in this manner, they are put into a kettle, where they are boiled for a certain time, during which they keep continually stirring them with a stick made of willow. When they perceive that the sap of these small chips adheres sufficiently to the stick in the form of a white frost, they strain the whole, taking care to throw away the dregs and refuse. This

[k] Of these we may cite many of the Verticillatæ, as sage, rosemary, lavender, hyssop, pepper-mint, and many others: Chenopodium ambrosioides. Achillea Millifolium & Ageratum, Unxia camphorata; and more particularly Schœnanthus persicus, (Kæmpf. Amœn. ex. p. 773.) Radix Zedoariæ, (Grimm in *Eph. n. c. Dec.* 2. *an.* 3. *p.* 409.) Thyme (*Phil. Trans. vol.* 33. *p.* 321.) Radix Enulæ (Malouin *Chemie med. tom.* 1. *p.* 321.) Anemone pratensis. Also Rad. asari, sem. fœniculi, cubebæ, &c.

[l] *L. c.*

[m] *Eph. N. C. Dec.* 2. *a.* 10. *p.* 79.

[n] Kæmpf. l. c. p. 772 Thunb. *Flor. Japon. p.* 72.

* He says, "Habitat frequens, & inculta, non minus in China, quam in Japoniâ." *v. i. p.* 250.

juice is afterwards poured gently into a new earthen bason, well varnished, in which it is suffered to remain one night. Next morning it is found coagulated, and formed into a solid mass. To purify this first preparation, they procure some earth from an old earthen wall, which, when pounded and reduced to a very fine powder, they put into the bottom of a bason made of red copper; over this layer of earth they spread a layer of Camphor, and continue thus until they have laid four strata. The last, which is of very fine earth, they cover up with the leaves of pennyroyal; and over the whole they place another bason, joining it closely to the former by means of a kind of red earth, that cements their brims together. The bason thus prepared is put over a fire, which must be managed so as to keep up an equal heat: experience teaches them to observe the proper degree. But above all, they must be very attentive lest the plaster of fat earth, which keeps the basons together, should crack or fall off; otherwise the spirituous parts would evaporate and ruin the whole process. When the basons have been exposed to the necessary heat, they are taken off and left to cool; after which they are separated, and the sublimated-Camphor is found adhering to the cover. If this operation is repeated two or three times, the Camphor is found purer and in larger pieces. Whenever it is necessary to use any quantity of this substance, it is put between two earthen vessels, the edges of which are surrounded with several bands of wet paper. These vessel are kept for about an hour over an equal and moderate fire, and when they are cool the Camphor is found in its utmost perfection, and ready for use."[o]

The crude Camphor, exported from Japan, appears in small greyish pieces, and is intermixed with various extraneous matters: in this state it is received by the Dutch, and purified by a second sublimation; after which it is formed into loaves, the state in which it is brought to us. The peculiar method used by the Dutch in

[o] See General Description of China, translated from the French, vol. i. p. 451.

this process has long been kept a secret; but others have succeeded in refining this drug, and the manner of performing it is now detailed and found to answer the purpose very well.[p]

Pure Camphor is white, pellucid, somewhat unctuous to the touch; of a bitterish aromatic acrid taste, yet accompanied with a sense of coolness; of a smell fragrant, and approaching to that of rosemary, but much stronger. It is totally volatile and inflammable; soluble in vinous spirits, oils, and the mineral acids; not in water, fixed or volatile alkaline liquors, nor in the acids of the vegetable kingdom.[q]

Camphor does not seem to have been known to the Greeks; but by the Arabians it was called Cafur, or Canfur, and was supposed to possess a refrigerant power.[r] To most small insects, and even to frogs and birds, the effluvia of Camphor prove very destructive, as appears from the experiments of Menghini and Carminati.[s] Taken inwardly by birds or quadrupeds, as rabbits, cats, dogs, sheep, &c. to the quantity of a dram, it has been found universally to produce deleterious effects;[t] and in large doses it has occasioned symptoms equally dangerous on man, instances of which are related by Griffin, Alexander, Whytt, Collin, Hoffman, Callisen, Cullen, and others. Whether Camphor ought to be considered as a califacient and stimulant, or as a refrigerant and sedative, we are surprized should of late have become a subject

[p] The following method is directed in the *Pharm. Suecica. p.* 52.

Rec. Camphoræ crudæ libras duas,
Calcis ustæ pulveratæ uncias unam.

Simul trita immittantur cucurbitæ vitreæ latæ et depressæ, atque arneæ calore sensim aucto liquetur Camphora. Remisso postea calore sublimetur masse pellucida, a scoriis, confracto vitro, separanda.

[q] Duncan's Edinburgh New Dispensatory.

[r] See Avicenna ed. Alpagi et Rinii. p. 563. Also Serapion.

[s] Mengh. *Comment. Bonon. tom.* 3. *p.* 314. *sq.* Carm. *de animal. ex mephitibus interitu. p.* 186.

[t] *Carm. & Mengh. l. c*

of controversy; the experiments of Alexander, who found that his pulse was lessened ten vibrations in a minute,[u] sufficiently establish its sedative character; and though some instances might show a contrary effect, they are such as occasionally occur[x] from the use of medicines universally admitted to be the most powerful of this class, and are to be explained as a secondary effect upon the principle of a reaction in the system; and our own experience, as well as that of several others noticed below, who have given it successfully in inflammatory complaints, leads us to conclude with Dr. Cullen, that inflammation is never the direct operation of this substance.

[u] *Experimental Essays, p.* 227.

[x] Quarin says, "Vidi enim in multis, quibus camphora majori dosi exhibita fuit, pulsum celerrimum, faciem ruberrimam, oculos torvos inflammatos, convulsiones et phrenitidem lethalem secutam fuisse." *Method. med. febr. p.* 57.

Respecting the use of this important medicine, in different diseases, we shall follow Dr. Cullen,* whose words we shall transcribe, adding, however, proper notes and references, conformably to the plan hitherto pursued in this work.

* "It has been much employed in fevers of all kinds, particularly in nervous fevers attended with delirium and much watchfulness; and in such I have frequently employed it with advantage. Some time ago, I have often seen it employed by my fellow-practitioners in such cases: and that the good effects of it did not always appear, I imputed it to its being used only in small quantities. Since we came into the free use of wine and opium, Camphire has been little employed in the practice of this country. The use of it, however, has been very fully established by some of the most eminent physicians on the continent: among these I reckon the late learned and experienced Werlhoff,[y] who often employed it in many inflammatory diseases with great benefit, and plainly gives us his opinion in favour of its refrigerant power.

"The use of this medicine has been especially remarkable in putrid fevers,[z] of

[y] *Comm. Norimberg.* 1734. & 1735. We may also notice Huxham and Hoffman, l. inf. c.

[z] Pringle, *Diss. of the Army, p.* 310. 316. Reverius, *Obs. et hist. Cent. i. Obs.* 24. & 29. *Cent.* 2. *Obs.* 18. 62. 64. Hoffman, *Diss. de usu interno Camphoræ* 1714. *p.* 20. Huxam, *Oper. T.* 2. *p.* 116. Ludwig, *Advers. Med. Pract. vol.* 1. *P. i. p.* 62. Collin, *Obs. circa morb. P. iii. p* 148. *sqq.* Even in the Plague, see Tissot, *Epist. ad Hall. p.* 287. Mindererus, *Lib. de peste. cap.* 15. Jo. Crato, *Epist. Med. a Schulzio edit. p.* 103. Hartman in *Pract. chymiatr.* 364. Schreiber, *Observ. et cogitata de pestilentia. p.* 58. *sqq.* and others.

which indeed we have not many instances in this country: but from the very remarkable antiseptic powers which it discovers in experiments out of the body,[a] it is very probable that when thrown into the body in large quantities, so that at least its more subtile parts may be diffused over the whole system, it may be expected to produce considerable antiseptic effects. Its power in resisting and curing gangrene in the experiments of Collin,[b] are very remarkable; but whether that power be owing to its antiseptic virtue alone, or to its operation at the same time on the nervous system, I would not rashly determine.

" Both from its use in low, or what are called malignant fevers, and from its antiseptic powers, it is highly probable that it has been of great service in the confluent small-pox.[c] It is also likely that it may be of service in favouring the eruption of exanthemata, and of bringing them back to the skin, when from any cause they had suddenly receded, though I have no particular experience of this.

" These are the cases of acute diseases in which Camphire has been useful; and its use in many chronic cases is equally well authenticated. Whenever diseases depend upon a mobility of the nervous power, and an irregularity of its motions, it may be expected that such a powerful sedative should be of service. Accordingly, many practitioners have reported its virtues in hysteric and hypochondriac cases; and I myself have had frequent experience of it.

" In spasmodic and convulsive affections it has also been of service;[d] and even in epilepsy it has been useful. I have not indeed known an epilepsy entirely cured by Camphire alone; but I have had several instances of a paroxysm which was expected in the course of a night, prevented by a dose of Camphire exhibited at bed-time; and even this when the Camphire was given alone: but it has been especially useful when given with a dose of cuprum ammoniacum, of white vitriol, or of the flowers of zinc.

" Since the report of Dr. Kinnier, in the Philosophical Transactions, vol. XXXV. Camphire has been often employed in cases of mania; and I have given above an account of a trial which I had made of it. In that case, however, it was not successful; nor in several other trials has it been more so with me, or other practitioners in this country.

[a] Pringle, l. c. app. p. 12.

[b] *L. c. P.* 3. *p.* 145. See also Pouteau *Melanges de Chirurgie. p.* 187.

[c] Haller, *Opusc. path. p.* 145. Tissot, *Epist. Med. Pract. p.* 237. C. L. Hoffmanns *Nachricht von e. gut. Heilart d. Kinderblattern.* 1764. *in Vogel Bib. vol. 5. p.* 340. Collin, *l. c. P.* 3. *cas.* 22. 23. 24. In the Small-pox Hospital, Camphor is in general use, and our own experience warrants us in saying, that in the early stages of this disease, and after proper evacuations have been effected, it seldom fails, in doses of a scruple, to relieve the pains of the head and loins, and to procure rest. But we have no reason to think with Rosenstein and Boerhaave, that the activity of the variolous miasmata is to be subdued by this medicine.

[d] Hoffman, *l. c. p.* 22. Home, *Clinical. Exp. p.* 193. Locher, *Obs. Pract. p.* 42. Millar, *on Asthma, &c. p.* 104. Collin, *l. c. cas.* 8. and others.

"We have had here lately, in a patient under the care of Mr. Lata, surgeon, a notable example of the use of Camphire in a maniacal case, which I think it proper to take notice of here.[e]

"This shows clearly enough the power of Camphire in mania; and I have only to add, that though in several other instances it has not made a cure, it has not in any instance of a moderate dose, that is, not exceeding half a dram, occasioned any disorder in the system; and in several cases it has induced sleep, and rendered the mind for some time more quiet.

"I observe that De Berger has been more successful; and perhaps the reason of our failure has been our not attending to his admonition. In his letter to Werlhoff on the subject of Camphire, he has the following passage: *Multoties hoc remedio in mea praxi utor, præcipue in inflammationibus internis, magno cum successu, et demiror tam multos medicos ab usu ejus interno abhorrere. Non diu est, quod præmissis præmittendis maniacum eo sanitati penitus restitui. In eo vero momentum præcipuum situm est, ut sufficiente dosi et diu satis exhibeatur.*

"This is particularly confirmed by a case given by Joerdens in the *Commercium Norimbergense.* In several other writers there are accounts of maniacal and melancholic cases cured by the use of Camphire; but many of the practitioners who report such cures acknowledge, that in many cases it had disappointed their expectations.* Whether these failures have been owing to the not employing at the same time nitre, vinegar, and some other remedies which are supposed to contribute much to the virtues of Camphire, we would not determine; but we are clear that mania is a disease of considerable diversity with respect to its causes, and that there are certain cases of it only to which Camphire is properly adapted. In cases of an organic affection of the brain, it is hardly to be supposed that Camphire or any other remedy can be of use.‡

"I have mentioned above, that several practitioners have employed Camphire in the most acute inflammatory diseases; and therefore we are not surprised to find that it has been given also internally in cases of acute rheumatism; and it is said to have been with advantage.[f] We have no experience of it, because we have

[e] In the case here alluded to, the dose of Camphor was gradually increased to above sixty grains three times a day, by which a cure was effected.

* Dr. Ferriar, who gave Camphor in eight maniacal cases, declares it to be "totally useless in these disorders:" in one of these cases two drams of Camphor, a scruple of musk, and eight grains of opium, were given daily, "without producing sleep, or the smallest impression upon the disease." *Med. Hist. & Reflections, p.* 174.

‡ We may here remark, that nymphomania, and other local affections producing effects of a similar kind, frequently superinduce a general state of mania, in which Camphor has been found more especially useful.

[f] See Rosenst. *Apol. p.* 7. Collin, l. c. aliique. For its good effects in fevers of the inflammatory kind, we have the testimony of Werlhoff, De Berger, Albrecht, Wolf, Joerdens, all to be found in the *Commer. Norimb.*

found another method of cure generally successful; but I take this occasion to mention its external use, as often of great service in removing the rheumatic pains of the joints or muscles. This we have often experienced, and have no doubt of Camphire having a peculiar power in taking off the inflammatory state in cases both of rheumatism and gout. In the case of rheumatism it is a matter of common experience: in the case of gout it is more rare; but I have had the following particular example of it. A gentleman had brought from the East Indies an oil of Camphire, a native substance, which seemed, by its taste and smell, to be no other than Camphire in that form, and which I perceive to be mentioned by naturalists as a native substance, produced by several trees in the East Indies. This the person possessed of recommended to all his acquaintances as an infallible remedy for the gout and rheumatism; and a gentleman who had often laboured under the gout, and then felt the pains of it unusually severe, was persuaded to apply it. He had then the gout exceedingly painful in the ball of the great toe and instep of *one foot.* On this part he rubbed a quantity of the oil of Camphire; and in about half an hour or a little more he was entirely freed from the pain he had before. In less, however, than an hour after, he had a pain and inflammation come upon the same part of the other foot. As the pain here became pretty severe, he again employed the oil of Camphire, and with the same effect of soon relieving the pain very entirely. The consequence of this was also the same; for in less than an hour the pain and inflammation returned to the foot that had been first affected: and here again our patient, obstinate in persisting in the trial of his remedy, again applied the oil, and he had the same success as before in relieving the part affected, and with the same effect also of occasioning a translation. But here the translation being made to the knee, the patient abstained from any farther application of the oil, and suffered the pain of the knee to remain for a day or two, and till it went off by some swelling and desquamation in the usual manner.

" This history shows sufficiently the power of Camphire in relieving the inflammatory spasm and pain of the part chiefly affected; but at the same time that it has no effect on the diathesis of the system, and that, when that subsists, as Camphire is ready to occasion a translation, it will always be employed in gouty cases with great danger. In cases of acute rheumatism, we have had occasion to remark, that a strong solution of Camphire in oil would relieve the pain of the joint for the time chiefly affected; but it was very often with the translation of it to another joint soon after: and we have therefore long ago ceased from employing such an application in all cases where an acute rheumatism was very general and strong in the system.

" It may be supposed that it is analogous to this power of Camphire in taking off an inflammatory state, that this medicine has been often found so useful in relieving toothach; and I have no doubt that Camphire operates by the power

mentioned in relieving toothach, but it is also by exciting a copious flow of saliva and mucus from the internal surface of the mouth, that water somewhat impregnated with Camphire, employed to wash the mouth, has been frequently of service in relieving the disease.

" However it may be with respect to toothach, we have no doubt that the antiphlogistic nature of Camphire may be of use in curing ophthalmia: and this gives a good ground for the many attempts that have been made to introduce Camphire into the medicines intended to be employed externally in the cure of ophthalmia.

" We have now mentioned many of the virtues of Camphire as employed by itself, and must now mention some instances of its peculiar utility when combined with other medicines.

" When combined with drastic purgatives, it is said to moderate their acrimony, and thereby their violent operation. We have not indeed perceived this, and perhaps never tried it in a proper manner; but in the mean time, the respectable authority of Mr. Lasonne,[s] the father, satisfies me that it is well founded.

" Another opinion that has been very general is, that Camphire has the power of correcting the acrimony of cantharides. In opposition to this, we would not quote the facts given by Dr. Heberden of two several instances in which Camphire seemed to occasion strangury;† for I must conclude these facts to have been very accidental occurrences, as I have employed Camphire fifty times, even in large doses, without my ever observing its having any effect upon the urinary passages. Mr. Lasonne, the father, has observed, as I have done frequently, that Camphire, though given very largely, never discovers its smell in the urine, whilst it frequently does it in the perspiration and sweat.

" It was formerly a frequent practice in this country to anoint a blistering plaster that was to be applied to the back, or other part, with camphorated oil, and this with a view of preventing strangury from the cantharides. The practice however has been long ago laid aside, because it was perceived that, in most persons, if the plaster was allowed to continue applied for above twelve hours, and while at the same time it was omitted to give the patient a large quantity of drink, a strangury would come on notwithstanding the unction of camphorated oil, and even the exhibition of a quantity of Camphire internally. The practitioners of this country have lost their faith in the power of Camphire in correcting the acrimony of cantharides; and for preventing the strangury that might otherwise arise, they trust entirely to a large exhibition of Arabic emulsion, and to the plaster's not being allowed to lie on too long.

" Another virtue ascribed to Camphire in combination, is its moderating the

[s] Lassone sen. in *Hist. de la Société. Roy. de Medecine de Paris, vol. 5. p.* 265.

† *Med. Trans. vol. i. p.* 471.

action of mercury; and if the saline preparations of mercury are triturated with a portion of Camphire, this abstracts a part of the acid that had been united with the mercury, and therefore renders the preparation more mild than before, and at the same time does not deprive entirely the preparation of much of its deobstruent virtue. This we have had experience of in that very acrid preparation of mercury the turbeth mineral, and also in the mercurius dulcis or calomel, which, by being triturated with Camphire, become less purgative, and less ready to excite salivation. How far this mitigation of the preparations of mercury leaves them equally powerful as before in the cure of syphilis, I cannot certainly determine; but am of opinion that it does not, if they be employed in the same quantities as they would have been before.

" This mitigation of the saline preparations of mercury, by a combination with Camphire, will be readily admitted; but many practitioners go farther, and alledge that mercury, in every condition, united with Camphire, becomes a more mild substance, less irritating to the system, while it is equally powerful in curing the diseases to which it is otherwise adapted.* I must admit the experience of the practitioners of France in this matter, but those of this country know nothing of it; and I can assert, that in many trials, a quantity of Camphire added to our common mercurial ointment neither prevented the unction, in the usual quantity, from exciting salivation, nor rendered the symptoms of it more mild than usual.

" A peculiar combination of Camphire said to have considerable effect, is that with opium. The employment of opium is in many persons attended with some inconvenience and disorder, as I have observed above; and every practitioner knows it to be alledged by some respectable persons, that Camphire joined with it prevents these disorders. It may be so, but I have not found it in my experiments. I have found large doses of Camphire dispose to sleep, but commonly with that same confusion of head and turbulent dreams which sometimes arise from the use of opium; and I have not found that a small quantity of Camphire has any effects in increasing the power of opium, or of rendering the operation of it different from what it would have been if employed alone. But against the respectable authorities of Lasonne and Halle,[h] I must suspect that my experiments have not been made properly or often enough.

" There is still another instance of the improvement of a medicine by a combination with Camphire. Mr. Lasonne assures us, that Camphire, joined with the Peruvian bark, gives it more energy and force, whether it be to be employed for the purpose of curing fever or gangrene; and I believe this to be well founded.

" After thus treating of the virtues of Camphire, we must speak of its dose and

* Raulin, *Observ. de Medecine. p.* 266.
Despatureaux *in Hall. Diss. Pract. vol. i. p.* 531.

[h] Hallé, *Mem. de la Société de Med. tom. cit. p.* 73.

exhibition. It will appear clearly from what is said above, that it may be given in doses of very different quantities; and it appears to me from many trials, that doses of a few grains, repeated only after long intervals, have hardly any effect at all, and that, to obtain sensible effects from it, it must either be given in large doses, not under that of twenty grains, or, if given in smaller doses, these must be repeated frequently after short intervals. The latter practice is preferred by some eminent practitioners. To what length in either way we may proceed, I have not experience enough to determine with any precision. From the effects of two scruples given in one dose in the case narrated above, and in another quoted from Dr. Hoffman, it would appear that such doses are violent and dangerous; but from some other experiments, it appears that larger doses have been sometimes given with impunity: and when it is given in divided doses, it appears from Collin's experiments, that it may be given to the quantity of a dram, or two drams in the course of a day; and in one of his experiments it was given to the quantity of half an ounce: and the same will appear from the history which I have given above. It is probable that from large doses only, considerable effects are to be expected; and as, from many experiments, it appears that the effects of Camphire are not very durable in the body, it will be obvious that the repeated and long continued use of it may be necessary to the cure of several diseases.

" With respect to the exhibition of this medicine, it is, in the first place, necessary that it should be always very minutely divided, as we know it is not readily dissolved in the stomach;[i] and while it remains there, it will float on the surface of the other contents, and in that way be applied to the upper orifice of the stomach, and give occasion to some pain there. It ought therefore to be minutely divided before it be given; and this may be done by rubbing it first in a mortar with any dry powder, such as nitre or hard sugar: but to make certain of a minute division, it is proper at the same time to add a few drops of rectified spirit of wine, or of such other spirituous menstruum as the spiritus vitrioli dulcis, or liquor anodynus mineralis of Hoffman.

" It may also be divided by rubbing it with the mucilage of gum arabic; but this will also be more perfectly executed if the Camphire is previously dissolved by a little spirit of wine or expressed oil. By its being diffused in the mucilage of gum arabic, it may be again diffused in any watery fluid for more convenient exhibition; but it is to be observed, that Camphire diffused in a watery fluid is ready to exhale from it, or arise to its surface, and to render the exhibition more disagreeable. When, therefore, any large quantity of water in which Camphire is diffused is to be prepared at once, it is proper to employ some means for entangling the Camphire. Sugar alone does not seem to be sufficient for the purpose; and it is more

[i] If this be not attended to, it constantly occasions heat and uneasiness at the stomach. See Fothergill, *Med. Observ. &c. vol. i. p.* 432.

effectually done by triturating the Camphire with mucilage alone, or with a portion of sweet almonds, and diffusing it again by means of mucilage into an emulsion.

" It has been thought that the virtues may be increased by exhibiting along with it a portion of nitre; but in many trials I have not been sensible of the benefit derived from the nitre, which, in any quantity that can be conveniently employed, has little effect on the system. It is with more probability alledged, that vinegar exhibited with Camphire is of service. Vinegar certainly gives the best means of correcting the taste of Camphire, and seems even to render it less disagreeable to the stomach; and we may allow that both by its refrigerant and antiseptic powers, it may contribute somewhat to the virtues of the Camphire."[k]

[k] *M. M. vol. ii. p.* 309.

CANELLA ALBA. LAUREL-LEAVED CANELLA.

SYNONYMA. Canella alba. *Pharm. Lond. & Edinb.* Winterania Canella. *Lin. Supp. p.* 247. Arbor baccifera laurifolia aromatica, fructu viridi calyculato racemoso. *Sloane's Jamaica, vol. ii. p.* 87. *t.* 191. *f.* 2. *Catesby's Carolina, vol. ii. p.* 50. *t.* 50. Canella foliis oblongis obtusis nitidis, racemis terminalibus. *Browne's Jam. p.* 275. *t.* 27. *f.* 3. Cassia lignea Jamaicensis Laureolæ foliis subcinereis cortice piperis modo acri. *Pluckenet Almag. p.* 89. *t.* 81. *f.* 1. *Lin. Spec. Plant. p.* 636. *Conf. Swartz. Botanical History of the Canella Alba. Linnean Transactions. p.* 96.

Class Dodecandria. *Ord.* Monogynia. *Lin. Gen. Winterania, p.* 598.

Ess. Gen. Ch. *Cal.* 3-lobus. *Pet.* 5. *Antheræ* 16, adnatæ nectario urceolata. *Bacca* 3-locularis. *Sem.* 2.

THE stem of this tree rises very straight, from ten to fifty feet in height, and branched only at the top; it is covered with a whitish bark, by which it is easily distinguished at a distance from other trees in the woods where it grows: the leaves are placed upon short footstalks, and stand alternately: they are oblong,

Camellia alba.

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obtuse, entire, of a dark shining green hue, and thick like those of the laurel: the flowers are small, seldom opening, of a violet colour, and grow in clusters at the tops of the branches upon divided footstalks: the calyx is monophyllus, divided nearly to its base into three lobes, which are roundish, concave, incumbent, green, smooth, membranous, and persistent: the corolla is composed of five petals, which are much longer than the calyx, sessile, oblong, concave, erect, and two of them are somewhat narrower than the other three: the nectary is pitcher-shaped, of the length of the petals, and supports the antheræ instead of filaments, which are wanting: the antheræ are twenty-one, linear, parallel, distinct, single valved, and fixed longitudinally to the nectary: the germen is ovate, placed above the insertion of the corolla, and supports a cylindrical style, furnished with two obtuse rough convex stigmata: the fruit is an oblong berry, containing four kidney-shaped seeds of unequal size.*

It appears a little surprising, that the Canella, which is a native of the West Indies, and of which figures have been given by Plukenet, Sloane, Catesby, Browne,[a] and others, should have been generally confounded with the tree which produces the cortex winteranus: even the younger Linnæus, who describes this tree under the genus Winterania, from a specimen in the herbarium of Montin, has acknowledged that he could not discover how far it differed from the Drimys, or Wintera of Murray.[b] The present

* "The whole tree (according to Dr. Swartz) is very aromatic, and when in blossom perfumes the whole neighbourhood. The flowers dried, and softened again in warm water, have a fragrant odour, nearly approaching to that of musk. The leaves have a strong smell of laurel. The berries, after having been some time green, turn blue, and become at last of a black glossy colour, and have a faint aromatic taste and smell. They are, when ripe, as well as the fruit of several kinds of laurel, very agreeable to the *White-bellied and Bald-pate Pigeons, (Columba Jamaicensis & leucocephala)* which feeding greedily upon them acquire that peculiar flavour so much admired in the places where they are found." l. c.

[a] Swartz observes, that the only tolerable figure among these is that of Browne, l. c.

[b] "Quantum differat a genere Drimys nondum bene scio." *Supp. p.* 247.

figure, which is given on the authority of Dr. Swartz, who presented it to the Linnean Society, accompanied with a botanical history of the tree,* will, we hope, remove every doubt concerning the true characters of Canella alba; and by comparing the annexed plate with that published of the Winterana aromatica, in the fifth volume of Medical Observations and Inquiries by Drs. Fothergill and Solander,‖ it may be observed how far the tree, which produces the cortex winteranus, differs from that of our plant, the bark of which is the officinal Canella alba. The latter appears from Clusius to have been first introduced into Britain about the year 1600;† the former was known in England twenty years before, and took its name from William Winter, captain of one of the ships which accompanied Sir Francis Drake to the Straits of Magellan, from whence he brought this bark to Europe in 1579. John Bauhin appears to be the first [d] who confounded the names of these barks, by styling the cortex winteranus Canella alba; and as Sir Hans Sloane, who has given a separate description of both trees, and was sensible of a difference in the taste of their barks, seems to insinuate that this might depend upon the place of growth, his remarks did not wholly remove the error.[e]

Professor Murray, in his 14th edition of the Systema Vegetabilium, was the first who made a distinct genus of Canella, and thus corrected the mistake of Linnæus,‡ who, disregarding the evidence

[c] *Vide l. c.*

* Read before the Linnean in December 1788.

‖ "*Some Account of the Cortex Winteranus, or Magellanicus, by Dr. John Fothergill, with a Botanical Description by Dr. Solander, and some Experiments by Dr. Morris.*" *p.* 41.

† He says, "Ante paucos annos (1605) cœpit exoticus cortex inferri, cui nomen Canellæ albæ indiderunt." *Exot. lib. iv. cap.* 4.

[d] *Hist. vol. i. p.* 460. [e] *Phil. Trans. No.* 192. *p.* 462.

‡ *P.* 443. Though Murray has here said, "Cortex hujus est Canella alba officinarum," yet the London College has not availed itself of this authority, no botanical reference being given to Canella alba in the new pharmacopœia.

of the old botanists,* combined two genera under the name of Laurus Winterana;[f] but he afterwards made it a separate genus, and called it Winterania,[g] a name by which it has been long universally, though improperly distinguished. Mr. Aiton, who has followed Murray in considering the Canella, as differing generically from the tree named after Winter, informs us, that it was cultivated by Mr. Phillip Miller, at Chelsea, in 1739.[h]

The officinal Canella alba is the bark of the branches of this tree, freed from its outward covering, and dried in the shade. It is brought to Europe in long quills, which are about three quarters of an inch in diameter, somewhat thicker than cinnamon, and both externally and internally of a whitish or light brown colour, with a yellowish hue, and commonly intermixed with thicker pieces, which are probably obtained from the trunk of the tree. This bark in taste is moderately warm, aromatic, and bitterish; its smell is agreeable, and resembles that of cloves. Its virtues are extracted most perfectly by proof spirit. "In distillation with water it yields an essential oil of a dark yellowish colour, of a thick tenacious consistence, difficultly separable from the aqueous fluid, in smell sufficiently grateful, though rather less so than the bark itself: the remaining decoction, inspissated, leaves an extract of great bitterness, in consistence not uniform, seemingly composed of a resinous and gummy matter, imperfectly mixed. On inspissating the spirituous tincture, the spirit which distils has no great smell or taste of the Canella, but is so far impregnated with its more volatile oil as to turn milky on the admixture of water: the remaining extract retains the bitterness of the bark, but has little more of its warmth or flavour than the extract made with water."[i]

* Among these we may notice Plukenet, who, speaking of these two trees, says, "Varie inter se plurimum diversæ plantæ per illarum ignorationem plane confunduntur." *Almag. Mant.* p. 40.

[f] *Sp. Plant. ed.* 1. *p.* 371. [g] See his *Hort. Cliff.* 448. and *Mat. Med.*

[h] *Hort. Kew. vol. ii. p.* 125.

[i] Lewis, *M. M. p.* 186.

The use of Canella alba now supersedes that of the old bark of Winter, on the authority of both the London and Edinburgh pharmacopœias. It has been supposed to possess a considerable share of medicinal power, and is said to be an useful medicine in the scurvy, and some other complaints; but it is now considered merely in the character of an aromatic, and like many of the spices is chiefly employed for the purpose of correcting and rendering less disagreeable the more powerful and nauseous drugs. It is therefore an ingredient in the pulv. aloet. Pharm. Lond. and in the tinctura amara, vinum amarum, vinum rhei, &c. of the Pharm. Ed. Swartz tells us, that "this bark, together with the fruit of Capsicum, was formerly a common ingredient in the food and drink of the Caribs, the ancient natives of the Antilles; and even at present it makes a necessary addition to the meagre pot of the negroes." l. c.

MYRISTICA MOSCHATA. NUTMEG TREE.

SYNONYMA. Nux Moschata. *Pharm. Lond. & Edinb. Park. Theat. p.* 1600. *Raii Hist. p.* 1522. Nux Moschata, fructu rotundo. *Bauh. Pin. p. 407. Pluk. Almag. p.* 267. Nux Moschata rotunda, sive femina. *Gerard, Emac. p.* 1536. *Breyn. Prod. vol. ii. p. 77.* Nux Myristica. *Rumph. Amb. vol. ii. tab.* 4. Myristica Moschata. *Thumb. Act. Stockholm. ann.* 1782. *p.* 46. *t.* 1. *Conf. Mémoire sur le genre du Muscadier Myristica, par Mr. De La Marck; Hist. de l'Acad. Royal des Scien. pour l'an.* 1788. *pub. en* 1790. *p.* 148.

Class Dioecia. *Ord.* Syngenesia. *Shreb. Gen. Plant.* 1562.

Ess. Gen. Ch. *Masc. Cal.* 3-fidus. *Cor.* 0. *Antheræ* circum supremam partem filamenti adnatæ.

Fem. Cal. 3-fidus. *Cor.* 0. *Styl.* breviss. *Stigma* bifidá. *Caps.* drupacea. *Shreb.*

Sp. Ch. M. foliis lanceolatis fructu glabro. *Thunb.*

Myristica Moschata

Published by W. Phillips, Dorrington.

THIS tree attains the height of thirty feet, producing numerous branches which rise together in stories, and covered with bark, which of the trunk is a reddish brown, but that of the young branches is of a bright green colour: the leaves are nearly elliptical, pointed, undulated, obliquely nerved on the upper side of a bright green, on the under whitish, and stand alternately upon footstalks: the flowers are small, and hang upon slender peduncles, proceeding from the axillæ of the leaves: they are both male and female upon separate trees.

Of the *male flower* the calyx consists of one bell-shaped leaf, divided at the brim into three small teeth: there is no corolla: the stamina, according to De La Marck, are from six to twelve, joined in a bundle, consisting of four short filaments, inserted into the receptacle, and surrounded with antheræ, which are long, linear, and united.

Of the *female flower* the calyx is similar to that of the male flower: there is no corolla: the germen is above, oval, and supports a style, terminated by two stigmata: the fruit is round or oval, and of the drupous kind, of which the external covering is fleshy, tough, and by opening at the top separates into two valves, and discovers the Mace, which has a reticulated appearance, and divides into three portions, which closely invest a slender shell containing the seed or Nutmeg. This tree is a native of the East Indies, particularly the Molucca Islands.

The Nutmeg has been supposed to be the Comacum of Theophrastus, but there seems little foundation for this opinion, nor can it with more probability be thought to be the Chrysobalanos of Galen. Our first knowledge of it was evidently derived from the Arabians; by Avicenna it was called Jiausiban, or Jausiband,[a] which signifies Nut of Banda. Rumphius both figured and described this tree;[b] but the figure given by him is so imperfect, and the description so confused, that Linnæus, who gave it the

[a] *Lib. ii. cap.* 503, and by Serapion it was named Jeuzbave.

[b] Vide, *l. c.*

generic name Myristica, was unable to assign its proper characters. Sonnerat's account of the Muscadier is still more erroneous;[c] and the younger Linnæus was unfortunately misled by this author, placing the Myristica in the class Polyandria, and describing the corolla as consisting of five petals.[d] Thunburg, who examined the flower of the Nutmeg, places it in the class monoecia, and according to his description, the male flower has but one filament, surrounded at the upper part by the antheræ;[e] and as the filaments are short and slender, and the antheræ united, this mistake might easily arise.* Mr. De La Marck informs us, that he received several branches of the Myristica, both in flower and fruit, from the Isle of France, where a Nutmeg-tree, which was introduced by Mons. Poivre, in 1770, is now very large, and continually producing flowers and fruit.[f] From these branches, which were sent from Mons. Céré, Director of the king's garden in that island, Mons. De La Marck has been enabled to describe and figure this and other species of the Myristica with great accuracy; and the annexed plate will shew, that we have profited by his labours.

The seeds or kernels, called Nutmegs, are well known, as they have been long used both for culinary and medical purposes. Distilled with water, they yield a large quantity of essential oil, resembling in flavour the spice itself; after the distillation an insipid sebacious matter is found swimming on the water; the decoction, inspissated, gives an extract of an unctious, very lightly bitterish taste, and with little or no astringency. Rectified spirit extracts the whole virtue of Nutmegs by infusion, and elevates

[c] *Voyage à la Nouvelle Guinée, p.* 194. *t.* 116.

[d] *Supp. Plant. p.* 265.

[e] *Act. Stockholm.* 1782. *p.* 46.

* Since writing the above, Mr. Dryander informed me, that he had examined several specimens of these male flowers preserved in spirit, in each of which he found only one columnar filament, and concludes that De La Marck must have been deceived by dividing the fibres of this organ: consequently the myristica should in strictness be placed in the order monadelphia.

very little of it in distillation: hence the spirituous extract possesses the flavour of the spice in an eminent degree.

Nutmegs, when heated, yield to the press a considerable quantity of limpid yellow oil, which on cooling concretes into a sebacious consistence. In the shops we meet with three sorts of unctious substances, called Oil of Mace, though really expressed from the Nutmeg. The best is brought from the East Indies in stone jars; this is of a thick consistence, of the colour of mace, and has an agreeable fragrant smell: the second sort, which is paler coloured, and much inferior in quality, comes from Holland in solid masses, generally flat, and of a square figure: the third, which is the worst of all, and usually called Common Oil of Mace, is an artificial composition of sevum, palm oil, and the like, flavoured with a little genuine oil of Nutmeg.[g]

The medicinal qualities of Nutmeg are supposed to be aromatic, anodyne, stomachic, and restringent,[h] and with a view to the last mentioned effects, it has been much used in diarrhœas, and dysenteries. To many people the aromatic flavour of Nutmeg is very agreeable; they, however, should be cautioned not to use it in large quantities, as it is apt to affect the head, and even to manifest an hypnotic power in such a degree as to prove extremely dangerous. Bontius speaks of this as a frequent occurrence in India;[i] and Dr. Cullen relates a remarkable instance of this soporific effect of the Nutmeg, which fell under his own observation,[k] and hence

[f] *L. c.*

[g] *Ed. New Dispens.* by *Dr. Duncan. p.* 238.

[h] *Bergius, M. M. p.* 884.

[i] *De Medicina Indorum, p.* 20. See also *Miscell. Nat. Cur. dec.* III. *an.* II. *obs.* 129.

[k] "A person by mistake took two drams or a little more of powdered Nutmeg: he felt it warm in his stomach, without any uneasiness; but in about an hour after he had taken it he was seized with a drowsiness, which gradually increased to a complete stupor and insensibility; and not long after he was found fallen from his chair, lying on the floor of his chamber in the state mentioned. Being laid a-bed

concludes, that in apoplectic and paralytic cases this spice may be very improper. The officinal preparations of Nutmeg are a spirit and essential oil, and the Nutmeg in substance roasted, to render it more astringent. Both the spice itself and its essential oil, enter several compositions, as the confectio aromatica ,spiritus amoniæ com. &c. Mace possesses qualities similar to those of the Nutmeg, but is less astringent, and its oil is supposed to be more volatile and acrid.

he fell asleep; but waking a little from time to time, he was quite delirious: and he thus continued alternately sleeping and delirious for several hours. By degrees, however, both these symptoms diminished, so that in about six hours from the time of taking the Nutmeg he was pretty well recovered from both. Although he still complained of head-ach, and some drowsiness, he slept naturally and quietly the following night, and next day was quite in his ordinary health." *Mat. Med. vol. ii. p.* 204.

Sanicularia officinalis

Published by W. Phillips Dec.ber 1st 1809.

ORD. XLI. SCABRIDÆ.

(From *Scaber;* rough, rugged, or bristly) rough leaved Plants.

PARIETARIA OFFICINALIS. WALL PELLITORY.

SYNONYMA. Parietaria. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 331. *Raii Hist. p.* 206. *Synop. p.* 158. Parietaria vulgaris. *Park. Theat. p.* 436. Parietaria foliis elliptico-lanceolatis hirsutis. *Hal. Stirp. Helv. n.* 1612. Parietaria officinalis. *Huds. Ang. p.* 442. *Lightf. Scot. p.* 634. *Withering Bot. Arr. p.* 1141. *Curt. Flor. Lond. Flor. Dan.* 521.

Class Polygamia. *Ord.* Monoecia. *Lin. Gen. Plant.* 1152.

Ess. Gen. Ch. *Herm. Cal.* 4-fidus. *Cor.* 0. *Stamina* 4. *Styl.* 1. *Sem.* 1. superum, elongatum.

Fem. Cal. 4-fidus. *Cor.* 0. *Stam.* 0. *Stylus* 1. *Sem.* 1. superum, elongatum.

Sp. Ch. P. fol. lanceolato-ovatis pedunculis dichotomis calycibus diphyllis.

THE root is perennial, reddish, fibrous, creeping: the stem is erect, rough, viscous, reddish, and furnished with long spreading branches: the leaves are elliptical, pointed, veined, somewhat hairy, and placed on short footstalks: the flowers are small, of a greenish colour, tinged with red, placed at the alæ of the leaves in sessile-branched veticillate clusters, and are both hermaphrodite and female; two of the former and one of the latter are placed within the same involucrum, which is permanent, and divided into seven irregular oval pointed leafits, beset with glandular hairs:

the calyx of the hermaphrodite flower separates into four flat blunt segments, about half the size of the involucrum, and supplies the place of a corolla: the filaments are four, transversely wrinkled, and manifest an elastic power: the antheræ are double, and according to Mr. Lightfoot, have a great degree of sensibility:† the germen is egg-shaped, and supports a reddish style, terminated with a brush-like stigma: the calyx becomes the seed vessel, and contains an egg-shaped seed. The female flower stands between the other two, from which it differs in not being furnished with stamina.

It is reckoned amongst the most common of British plants, growing on old walls, and flowering from May till September.

This plant promises little from its sensible qualities: it has no smell, and its taste is simply herbaceous. Formerly it was accounted emollient, and was one of the five herbs of this denomination; but as Parietaria has no mucilaginous quality, this effect ought to be ascribed to the warm water, for which the plant served merely the purpose of a vehicle. Its character, as a diuretic, is better known. Matthiolus tells us, that its expressed juice, sweetened with sugar, had a very powerful effect in this way:[a] and Barbeirac[b] informs us, that a decoction of this plant, and uva ursi, was found of great use in clearing the urinary passages of viscid mucus, and sabulous concretions: these testimonies however will have little weight with the medical practitioner, and it is now very seldom used, though sanctioned with a place in the Materia Medica of both the Pharmacopœias.

[a] *Matt. in Diosc. p.* 782. [b] *Medic. constit.* 1751. *p.* 163.

† "For if irritated with a point of a pin, they fly from the calyx with elastic force, and explode their powder." See, *l. c.*

The leaves, strewed in granaries, are said to destroy the corn weevil. *Light.*

Dr. Withering has been informed that this plant contains a considerable quantity of nitre, and that in making an extract from it, the mass has taken fire. *Bot. Ar. p.* 1142.

This quality of parietaria is also noticed by Mr. Lightfoot. *L. c.*

Dorstenia Contrajerva

Published by W. Phillips. Dec.r 1.st 1809.

DORSTENIA CONTRAJERVA. CONTRAYERVA.

SYNONYMA. Contrayerva. *Pharm. Lond.* & *Edinb.* Dorstenia sphondylii folio, dentariæ radice. *Plum. ic. p.* 109. *tab.* 119. *Jacquin coll. vol.* iii. *Auctorum sequentium synonyma ad nostram plantam satis clarè referri nequeunt.* Drakena radix. *Clus. Exot. p.* 83. *J. Bauh. Hist. vol.* ii. *p.* 740. *Gerard. Emac. p.* 1621. *Raii Hist. p.* 1339. Contrayerva Hispanorum sive Drakena radix. *Park. Theat. p.* 421. *Pro matre radicis contrayervæ in medicina vulgo usitatæ, ex vivis speciminibus cl.* Houstoun *duas dorsteniæ species descripsit,* 1° Dorstenia Dentariæ radice, sphondylii folio, placenta ovali, 2° Dorstenia Dentariæ radice, folio minus laciniato, placenta quadrangulari et undulata. (*Phil. Trans. vol.* 37. *p.* 196. & 197.) Vel Dorstenia Drakena, et D. Houstoni. *Lin. Syst. Veg.*

Class Tetrandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 158.

Ess. Gen. Ch. Receptac. commune 1-phyllum, carnosum, in quo semina nidulantur.

Sp. Ch. D. scapis radicatis, fol. pinnatifido-palmatis serratis, receptaculis quadrangulis.

THE root is perennial, tapering, unequal, compact, rugose, externally brown, internally whitish, and furnished with numerous fibres: the leaves are various, of an irregular shape, lobed, serrated, or rather dentated, pointed, veined, and placed upon long radical footstalks, which are winged towards the leaves: the scapi, or flower-stems, are round, rough, simple, rise several inches in height, and each supports an irregular quadrangular receptacle, which contains the necessary parts of fructification: the flowers on examination were discovered to be distinctly male and female,

immersed in the common receptacle, and occupying the whole of its disc; the former consisted but of two slender short filaments, with yellow antheræ;† the latter of a roundish germen, supporting a simple style, terminated by an obtuse stigma: the capsule, when ripe, possesses an elastic power, by which the seed is thrown out with considerable force.[a]—It is a native of South America and some of the West India Islands.‡

This plant is extremely scarce in Europe: the annexed figure of it was taken from a plant now in the Royal garden at Kew, where it was lately introduced, and is, we believe, the first of this kind that ever grew in England.[b] It does not sufficiently appear from what authority Linnæus gives the Dorstenia Contrajerva. The London College has however adopted it in the list of the Mat. Med. and in compliance with this we have figured the plant; at the same time we must acknowledge, that, upon the faith of Dr. Houston, who examined the Contrayerva plants in their native soil,[c] we should otherwise have had no doubt in referring the officinal radix contrayervæ to the species he has described, as has been done by Bergius[d] and Murray.[e] But as Houston has observed, that the roots of different species of Dorstenia are promiscuously gathered and exported for those of the Contrayerva; and as all the species bear a great resemblance to each other, we conceive the further discussion of this subject to be of no material consequence. Nich. Monardus,[f] almost two centuries ago, first makes mention of the plant called Contrayerva; and as this name is of Spanish

† This plant cannot therefore be properly said to belong to the class *tetrandria.*

[a] Vide Jacquin. l. c.

‡ Jacquin found it growing on the island of Martinico. Vide l. c.

[b] We do not find any species of the Dorstenia mentioned in the *Hort. Kew.* lately published.

[c] The first species on the high ground near Old Vera Cruz: and the second on the high rocky ground about Campechy in the year 1730. *Phil. Trans. vol.* 37. *p.* 197.

[d] *Mat. Med. p.* 73. [e] *App. Med. vol.* 4. *p.* 572.

[f] Vide Clusius *Exot. p.* 311.

origin, signifying an antidote to poison, it might apply to any other plant supposed to possess this power. We are told by Clusius, that he received from Sir Francis Drake some roots which were brought from Peru, where they were highly valued, and reported to counteract the effects of every kind of poison, of which the leaves of the same plant were said to be one. This root, in compliment to the circumnavigator, he named Drakena radix, and is generally thought by botanists to be that of Contrayerva. The generic name, Dorstenia, was first used by Plumier,[g] and afterwards by Linnæus, who makes four species of this genus.

The root of Contrayerva has a peculiar kind of aromatic smell, and a light astringent warm bitterish taste, and on being long chewed it discovers somewhat of a sweetish sharpness. According to Lewis, "Contrayerva root gives out its virtue, by the assistance of heat, both to water and rectified spirit, and tinges the former of a dark brownish red, the latter of a brighter reddish colour: the watery decoction is very mucilaginous, so as not to pass through a filter."[h]

The antipoisonous virtues formerly attributed to this root, have been long very justly exploded as entirely chimerical, so that it is now merely employed as a diaphoretic of a moderately stimulant kind, being possessed of less pungency than any other of those medicines usually denominated alexipharmic. Putrid and nervous fevers are the diseases in which Contrayerva is chiefly used, conformably to the practice of Huxham and Pringle, whose works are well known to all our medical readers.

[g] *Nov. gen. plant.* [h] Lewis *Mat. Med.*

URTICA DIOICA. COMMON NETTLE.

SYNONYMA. Urtica. *Pharm. Lond. & Edinb.* Urtica urens maxima. *Bauh. Pin. p.* 232. Urtica urens. *Gerard. Emac. p.* 706. Urtica major vulgaris & media sylvestris. *Park. Theat. p.* 440. Urtica racemifera major perennis. *Raii Synop. p.* 139. *Hist. p.* 160. Urtica stirpibus sexu distinctis, foliis serratis ovato-lanceolatis productis. *Hal. Stirp. Helv. n.* 1614. Urtica dioica. *Huds. Ang. p.* 417. *Lightf. Scot. p.* 578. *Withering Bot. Arr. p.* 1071. *Con. Flor. Dan. p.* 746. *Curt. Flor. Lond.*

Class Monoecia. *Ord.* Tetrandria. *Lin. Gen. Plant.* 1054.

Ess Gen. Ch. *Masc. Cal.* 4-phyllus. *Cor.* 0. *Nectarium* centrale, cyathiforme.

Fem, Cal. 2-valvis. *Cor.* 0. *Sem.* unicum, nitidum.

Sp. Ch. U. foliis oppositis cordatis, racemis geminis.

THE root is perennial, creeping, yellowish, furrowed, tough, and supplied with joints, from which proceed many fibres: it sends up several stalks, which are erect, very little branched, obtusely quadrangular, furrowed, purplish, beset with rigid hairs, and usually rise from two to four feet in height: the leaves are heart-shaped, pointed, widely serrated, wrinkled, veined, covered with sharp stinging hairs, and stand oppositely upon slender footstalks: at the base of the leaf-stalks there are four stipulæ, which are narrow, spreading, and on the underside channelled: the flowers are dioicous, or male and female on different plants, growing in branched pendulous hairy racemi, or clusters of four together: the calyx of the male flower is cut into four small egg-shaped obtuse segments: there is no corolla: the nectarium is turbinated, almost transparent, blunt, perforated at the top, and placed in the

2 Π.

Urtica dioica

Published by W. Phillips, Jan.ʸ 1ˢᵗ 1820.

centre of the flower: the filaments are four, tapering, of the length of the calyx, and furnished with two-celled antheræ: the calyx of the female flower is composed of two valves, which are egg-shaped, concave, erect, and permanent: there is no corolla: the germen is oval, without a style, but supplied with a woolly stigma: the seed is single, compressed, blunt, shining. It is very common about old walls, sides of roads, and ditch banks, flowering in July.

The Urtica [a] is well known; and though generally despised as a noxious weed, has been long used not only for medical but for culinary and œconomical purposes.[b] As a styptic it was formerly much used; and we are told of various hæmorrhagic affections in which it was successfully employed. It is also said to manifest a diuretic character, and to be useful in calculous complaints, scurvy, gout, jaundice, &c. But these accounts have little credit, and the nettle is now considered as a simple oleraceous plant, and when young is found to be a good substitute for greens, or other pot-herbs.

The sharp hairs[c] upon the fresh leaves of nettles readily enter the skin, and thereby produce considerable irritation and inflam-

[a] "Urtica, ab urendo dicta, quod pruritum & pustulas igni similes excitet." *Bauh. Pin.*

[b] "The young shoots, in the spring, are boiled and eaten by the common people instead of cabbage-greens. *Lightf. l. c.* The stalks may be dressed like flax or hemp for making ropes, nets, cloth, paper, &c. a practice not uncommon in some parts of Russia and Siberia. Vide Falk, *Beyträge zur topogr. Kenntniss des Russ. Reichs, vol.* 2. *p.* 254. *Vet. Acad. Handl.* 1747. *p.* 59. *Petersb. Journ.* 1778. *p.* 370. and others. The Nettle is said to be poisonous to frogs; for if the plant be thrown into a vessel where these animals are confined, they soon begin to swell, and in a few days perish. Vide *Hagström Svar om Biskötsel, p.* 150.

[c] The stings are very curious microscopic objects: they consist of an exceedingly fine pointed tapering hollow substance, with a perforation at the point, and a bag at the base. When the sting is pressed upon, it readily punctures the skin, and the same pressure forces up from the bag an acrimonious fluid, which instantly enters into the wound, and excites a burning inflammation. See Hooke, *Discoveries by the microscope, p.* 22. *tab.* 12. Guettard, *Mem. de L'Acad. de Sc. de Paris,* 1751. *p.* 350.

mation, and therefore have been employed in the way of a rubifacient, a practice which is termed urtication, and found of advantage in restoring excitement in paralytic limbs,[d] or in other cases of torpor or lethargy.[e]

[d] *Celsus ed. Kraus. p.* 179.

[e] Scopoli *Fl. Carn. ed.* 1. *p.* 428. Aretæus *curat. acut. lib. i. cap.* 2. *ed. Boerh. p.* 80. H. Piso in *Spicileg. curat. p.* 6. 9. Languentis veneris incitamentum recentis Urticæ olim fuere, quorsum respicit Petronius, *(Satiricon ed. De Salas. p.* 84*)* (alii que) Vid. *Murray App. Med. vol.* 4. *p.* 592.

ULMUS CAMPESTRIS. COMMON ELM.

SYNONYMA. Ulmus. *Pharm. Lond. & Edinb.* Ulmus campestris et Theophrasti. *Bauh. Pin. p.* 426. Ulmus vulgaris. *Park. Theat. p.* 1404. Ulmus vulgatissima folio lato, scabro. *Gerard. Emac. p.* 1480. *Raii Hist. p.* 1425. *Synop. p.* 468. *Hall. Stirp. Helv. n.* 1586. U. campestris. *Hudson. Flor. Ang. p.* 109. *Withering Bot. Arr. p.* 258. *Relhan. Flor Cant. p.* 106. *Ic. Flor. Dan.* 632. *Evelyn's Sylva by Hunter. p.* 118.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 316.

Ess. Gen. Ch. Cal. 5-fidus. *Cor.* nulla. *Bacca* exsucca, compresso-membranacea.

Sp. Ch. U. foliis duplicato-serratis; basi inæqualibus.

THIS is very common in the neighbourhood of London, where it grows to a considerable height, sends off strong branches, and is covered with rough cracked brown bark: the leaves are ovate, rough, doubly serrated, and stand alternately upon strong foot-stalks: the flowers appear before the leaves, on short spikes at the bottom of the leaf-buds: the calyx is turban-shaped, wrinkled,

Ulmus campestris

Published by W. Phillips June 1st 1824

permanent, and divided at the border into five segments: there is no corolla: the five filaments are tapering, twice as long as the calyx, and furnished with short upright antheræ, marked with four furrows: the germen is round, compressed, upright, and supports two styles, which bend outwards, and are terminated by downy stigmata: the fruit is an oval large berry, which is without juice, and of a membranous texture: the seed is round, but somewhat compressed.

This tree, of which there is one variety with smaller leaves, and another with smooth leaves, grows plentifully in Worcestershire and Middlesex, but is said not to be found to the north of Stamford.

The inner tough bark, which is directed for use by the Pharmacopœias, has no remarkable smell, but has a bitterish taste, and abounds with a slimy juice, which has been recommended in nephritic cases, and externally as a useful application to burns. The external bark is brittle, contains but little mucilage, and is wholly destitute of both smell and taste. The internal bark of the branches is more bitter than that of the trunk, and therefore probably more efficacious.

The complaints for which it is chiefly recommended, are those of the cutaneous kind allied to herpes and lepra. Dr. Lysons[a] mentions five cases of inveterate eruptions, both dry and humid, or those forming incrustations, which were successfully treated by a decoction of this bark, prepared from four ounces of it taken fresh, and boiled in two quarts of water to one; of this the patients were usually directed to drink half a pint twice a day. But as he added nitre to the decoction, and also frequently had recourse to purgatives, it may be doubted if these cures ought to be wholly ascribed to the Elm bark.

Dr. Lettsom[b] found this bark most effectual in what he supposes to be the lepra ichthyosis of Sauvages, in which it succeeded after

[a] See *Med. Transactions, vol. ii. p.* 203.

[b] See *Medical Memoirs, p.* 152.

all the medicines usually employed in such cases had failed. A remarkable instance of its efficacy also in lepra vulgaris, affecting the whole body, is related by Banau;[c] who proposes the use of Elm bark in various other diseases, as fluor albus, rheumatism, old ulcers, cancerous and scrophulous affections, tinea capitis, scurvy, &c. In very obstinate cases it is necessary to persevere in the use of the decoction for some months.

[c] See *Journ. de Paris*, 1783. *n.* 255.

MORUS NIGRA. COMMON MULBERRY TREE.

SYNONYMA. Morum. *Pharm. Lond.* Morus fructu nigro. *Bauh. Pin. p.* 459. Morus. *Gerard. Emac. p.* 1507. Morus nigra. *J. Bauh. Hist. vol. i. p.* 118. *Raii Hist. p.* 1429. *Park. Parad. p.* 596. *Du Hamel Traité des arbres fruitiers, tom. i. p.* 335. *Hunt. Evel. vol. ii. p.* 30.

Class Monoecia. *Ord.* Tetrandria. *Lin. Gen. Plant.* 1055.

Ess. Gen. Ch. *Masc. Cal.* 4-partitus. *Cor.* 0.
Fem. Cal. 4-phyllus. *Cor.* 0. *Styli* 2. *Cal.* baccatus. *Sem.* 1.

Sp. Ch. M. foliis cordatis scabris.

THIS tree never grows to a considerable height, but sends off several crooked branches, and is covered with rough brown bark: the leaves are numerous, heart-shaped, serrated, veined, rough, of a bright green colour, and stand upon short footstalks: the flowers are male and female upon the same tree:[a] the *male flowers* are placed in close roundish catkins, each floret composed of a calyx,

[a] This is not constantly the case, as it sometimes happens that all the flowers are male, or female, and consequently barren.

Morus nigra

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divided into four leaves, which are oval, concave, and erect: there is no corolla: the filaments are four, longer than the calyx, and furnished with simple antheræ: the calyx of the *female flower* is divided into four obtuse persistent segments: there is no corolla: the germen is roundish, and supports two rough styles, supplied with simple stigmata: the fruit is a large succulent berry, composed of a number of smaller berries, each containing an oval seed, and affixed to a common receptacle. It flowers in June, and its fruit ripens in September.

The Mulberry-tree is a native of Italy, and is now cultivated in most parts of Europe,[b] not only for the grateful fruit which it affords, but in many places for the more lucrative purpose of supplying Silk-worms with its leaves, upon which they feed.[c]

The ripe fruit abounds with a deep violet-coloured juice, which in its general qualities agrees with that of the other acido-dulces, allaying thirst, partly by refrigerating, and partly by exciting an excretion of mucus from the mouth and fauces; a similar effect is also produced in the stomach, where, by correcting putrescency, a powerful cause of thirst is removed.[d] This is more especially the case with all those fruits in which the acid much prevails over the saccharine part, as the currant, which we have already noticed;[e] and to which the medicinal qualities of this fruit may be referred; but both these, and most of the other summer fruits, are to be considered rather as articles of diet than of medicine. The London College directs a syrupus mori, which is an agreeable vehicle for various medicines.

[b] Gerard is the first who is known to have cultivated it in England.

[c] The leaves of the white Mulberry are preferred for this purpose in Europe; but in China, where the best silk is made, the silk worms are fed with those of the Morus tartarica. (Forster, in a letter to Professor Murray. See *App. Med. vol. iv. p.* 597. *dated* 1787.) From the bark of another species of Mulberry, (M. Papyrifera) the Japanese make paper, and the inhabitants of some of the islands of the South Sea make a kind of cloth.

[d] See Cullen's account of the fructus acido-dulces. *Mat. Med. vol. i. p.* 242.

[e] Page 535, vol. 4. See also Rubus and Citrus.

The bark of the root of the Mulberry-tree has an acrid bitter taste, and possesses a cathartic power. It has been successfully used as an anthelmintic, particularly in cases of Tænia.[f] The dose is half a dram of the powder.

[f] Vide, Andry, *de la generation des vers, &c. p.* 172.

FICUS CARICA. COMMON FIG-TREE.

SYNONYMA. Carica. *Pharm. Lond. & Edinb.* Ficus communis. *Bauh. Pin. p. 457.* Ficus vulgaris. *Park. Theat. p.* 1494. Ficus. *Gerard. Emac. p.* 1410. *Raii Hist. p.* 1531. Ficus Carica. *Miller Illust. Syst. sex. Du Hamel Traité des arbres Fruitiers. tom. i. p.* 207. *tab.* 1. 2. Bernard in *Obs. sur la physique, l'hist. nat. &c. tom.* 29. *tab.* 1. Συκη *Græc.*

Class Polygamia. *Ord.* Trioecia. *Lin. Gen. Plant.* 1168.

Ess. Gen. Ch. *Receptaculum* commune turbinatum, carnosum, connivens, occultans flosculos vel in eodem vel distincto.

Masc. Cal. 3-partitus. *Cor.* 0. *Stam.* 3.

Fem. Cal. 5-partitus. *Cor.* 0. *Pist.* 1. *Sem.* 1.

Sp. Ch. F. foliis palmatis.

THE Fig-tree is covered with smooth brown bark, and sends off many spreading branches: the leaves are large, succulent, smooth, irregularly divided into five lobes, of a deep green colour, and stand upon strong footstalks. The fruit, in its early stage, serves as the common receptacle, and contains upon its inner surface all the florets, which are both male and female; the former has the calyx (proper) divided into three segments, which are lance-shaped, erect, and equal: there is no corolla: the filaments are

Ficus Carica

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three, bristly, of the length of the calyx, and furnished with double antheræ. The calyx (proper) of the *female flower* is divided into five segments, which are pointed, and nearly equal: there is no corolla: the germen is oval: the style is tapering, inflexed, and furnished with two pointed reflexed stigmata: the calyx is oblique, and contains in its bosom a roundish compressed seed. It is a native of the south of Europe, and commonly produces its flowers in June and July.

From history, both sacred and profane, the Fig-tree appears to have been known in the most early times. It has been long cultivated in England, and if screened from the north-east winds, commonly ripens its fruit here. The Fig, which has always been found a wholesome food, was by the ancients [a] ripened or brought to perfection by caprification; a practice which in some countries is still continued.[b] It had been observed, that the fruit of this tree frequently withered and dropped off before it arrived at a state of maturity, and upon examination it was discovered that those figs succeeded best which had been perforated by certain winged insects, which therefore were supposed to be instrumental in ripening the fruit. This gave rise to caprification, which formerly consisted in tying near the young figs the fruit of the wild fig tree, in which the flies above mentioned breed in abundance, and these insects, upon acquiring sufficient strength, issue from the wild fruit, and by penetrating the young figs produce the effect intended. That this insect, which by the ancients was called Psenes, or Culex, and by Linnæus, Cynips Psenes, produced this desirable effect, is generally admitted; but how it is to be explained has been the subject of some dispute.

To prevent ripe Figs from running into putrefaction, it is usual to dry them; which may be done either by the heat of the sun,

[a] See *Theophrastus*, *Suidas*, *Pliny*, and others.

[b] Caprification, as practised at some of the Archipelago Islands, when visited by Tournefort, appears to be a very curious but troublesome business. See *Tournefort*, *Voyage du Levant*, *vol. i. p.* 130.

or by means of an oven: the latter way is preferred, especially when the fruit has been caprified, as the larva of the cynips is destroyed by the heat. The best figs are imported from the southern parts of Europe in small chests, and are compressed into a circular form, of a yellowish colour, and filled with a viscid sweet pulp, in which are lodged numerous small yellow lenticular seeds. The surface of the Figs is commonly covered with a saccharine matter, which exudes from the fruit, and hence they have been named *Caricæ pingues,* or fat Figs.

The recent fruit, completely ripe, is soft, succulent, and easily digested, unless eaten in immoderate quantities; when it is apt to occasion flatulency, pain of the bowels, and diarrhœa.[c] The dried fruit is pleasanter to the taste, and is more wholesome and nutritive. Figs are supposed to be more nutritious, by having their sugar united with a large portion of mucilaginous matter, which, from being thought to be of an oily nature, has been long esteemed an useful demulcent and pectoral; and it is chiefly with a view to these effects that they have been medicinally employed.

Figs are directed by the London Pharm. in the decoctum hordei compositum, and in the electuarium lenitivum. Externally applied they are supposed to promote the suppuration of tumours, and hence have a place in maturating cataplasms; with this intention they are also sometimes used by themselves, as warm as they can easily be borne, to phlegmons of the gums, and other parts where a poultice cannot conveniently be applied.

[c] *Murray, App. Med. vol. iv. p.* 585.

Daphne Mezereum

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ORD. XLII. VEPRECULÆ.

(Dim. from *vepres*, a briar, or bramble.)

Plants somewhat resembling a briar.

DAPHNE MEZEREUM. MEZEREON.

SYNONYMA. Mezereum. *Pharm. Lond.* & *Edin.* Thymelæa spica cylindrica, superne foliosa. *Hal. Stirp. Helv.* n. 1024. Chamelæa Germanica. *Dodon. Purg.* p. 130. Chamelæa Germanica sive Mezereon. *Gerard. Hist.* 1402. *Park.* 201. *Raii Hist.* 1587. Laureola folio deciduo, flore purpureo; officinis Laureola fœmina. *Bauh. Pin.* 462. Daphnoides. *Camer. Epit.* 937. Daphne floribus sessilibus, infra folia elliptica lanceolata. *L. Fl. Lap.* 105. Daphne Mezereum, *Flor. Dan.* 268. *Withering's Bot. Arrang.* 402.

* Varietates sunt,

α Floribus rubris.

β Thymelæa Lauri folio deciduo, flore albo, fructu flavescente. *Du Hamel Arb.* 2. p. 325. n. 4. *Du Roi Hort.* 1. p. 213. Vide *Hort. Kew.*

Class Octandria. *Ord.* Monogynia. *L. Gen. Plant.* 485.

Ess. Gen. Ch. *Cor.* 4-fida corollacea marcescens, stamina includens. *Bacca* 1-sperma.

Sp. Ch. D. floribus sessilibus ternis caulinis, foliis lanceolatis deciduis.

* Dr. Russel found no difference in the effects of these varieties, by the trials he made with the rind, which is the only part of the root now in use.

THE Mezereon is a hardy shrub, which usually grows to the height of five or six feet, and sends off several branches; the exterior bark is smooth, and of a grey colour; the root is of a fibrous texture, of a pale colour, and covered with smooth olive-coloured bark; the leaves are few, tender, lance-shaped, sessile, deciduous, and appear at the terminations of the branches after the flowers are expanded; the flowers surround the branches in thick clusters, they are sessile, monopetalous, tubular, having the limb divided into four oval spreading segments, commonly of a purple colour; the stamina are eight, alternately shorter, and concealed within the tube of the corolla; the style is very short, the stigma flat, and the germen, which is oval, becomes a reddish berry, containing a round seed. This shrub is a native of England, though not very common. It is said to grow plentifully in some woods near Andover in Hampshire, and also about Laxfield in Suffolk; but it ~~is~~ generally cultivated in gardens, on account of the beauty and earliness of its flowers, which appear in February and March.

This plant is extremely acrid, especially when fresh, and if retained in the mouth excites great and long continued heat and inflammation, particularly of the throat and fauces; the berries also have the same effects, and, when swallowed, prove a powerful corrosive poison, not only to man,[a] but to dogs,[b] wolves, foxes,[c] &c. The bark and berries of Mezereon, in different forms, have been long externally used to obstinate ulcers and ill-conditioned sores. In France the former is strongly recommended as an application to the skin, which under certain management[d] produces a

[a] Mulierculæ ruri baccas Coccumgnidii propinant in morbis rebellibus, sæpe effectu deleterio. Bergius M. M. p. 307. A woman gave twelve grains of the berries to her daughter, who had a quartan ague; she vomited blood, and died immediately. Wither. l. c. As the acrimony of these berrries is not immediately perceived upon being tasted, the ignorant and unwary are the more easily betrayed to swallow them.

[b] Haller l. c. [c] Lin. Fl. Lap. p. 105.

[d] As some may wish to try this practice, which is unknown to this country, and promises beneficial effects in several complaints, we shall briefly recite the usual mode in which it has been conducted:—A square piece of the recent bark, about

continued serous discharge, without blistering; and is thus rendered useful in many chronic diseases of a local nature, answering the purpose of what has been called a perpetual blister, while it occasions less pain and inconvenience.

In this country the Mezereon is principally employed for the cure of some syphilitic complaints, and in this way Dr. Donald Monro was the first who gave testimony of its efficacy in the successful use of the Lisbon diet drink.[e] A few months after this, several cases were published by Dr. Russel, then physician to St. Thomas's Hospital, fully establishing the utility of the cortex mezerei in venereal nodes.[f] He says, "the disease for which I principally recommend the decoction of mezereon root as a cure, is the node, that proceeds from a thickening of the *membrane* of the bones, which appears to be the cause of the greatest part of those tumours, at least when recent.—In a thickening of the periosteum from other causes I have seen very good effects from it." But in the nocturnal pains, accompanying syphilis, unless occasioned by the node itself, he found it necessary to join a solution of sublimate to the decoction.[g] We may also remark, an inch long, and three quarters of an inch broad, macerated a little in vinegar, is applied to the skin, over which is bound a leaf of ivy or plantane. This application is at first renewed night and morning till it cauterizes the part and brings on a serous discharge, when a renewal of the bark once in 24 hours is found sufficient to continue the issue for any length of time. By means of suitable plasters, we conceive that it might be applied behind the ears to relieve the eyes, and on a larger scale prove an useful practice in sundry diseases.—It must be observed however, that it sometimes produces cutaneous eruptions, which Bergius attributes to the absorption of the acrid particles of the bark. l. c. vide Essai sur l'usage & les effets de l'écorce du Garou.

[e] Ess. & observ. phis. & lit. p. 402. vol. 3.

[f] Med. Observ. & Inquir. vol. 3. p. 189.

[g] Dr. R. first joined sarsaparilla to the mezereon, but afterwards used the following only:

℞ Cort. rad. Mezerei ℥j
Aq. fontan. cong. iss.
Coc. ad cong. j sub fin. addend. rad. glycyrrhiz. incis. ℥j. dos. lbss quater in die.

And by this many of the patients were entirely cured without ever taking mercury.

that Dr. R. never found the decoction to increase any of the natural evacuations. Dr. Cullen observes, that "Dr. Home has not only found this decoction to cure scirrhous tumours, which remain after the lues venerea, and after the use of mercury, but that it healed also some scirrhous tumours from other causes; and that he has employed it in several cutaneous affections, and sometimes with success."[h]

The considerable and long continued heat and irritation that is produced in the throat when Mezereon is chewed, induced Dr. Withering to think of giving it in a case of difficulty of swallowing, seemingly occasioned by a paralytic affection. The patient was directed to chew a thin slice of the root as often as she could bear it, and in about a month recovered her power of swallowing. This woman had suffered the complaint three years, and was greatly reduced, being totally unable to swallow solids, and liquids but very imperfectly.[i]

[h] M. M. vol. 2. p. 215.

[i] l. c.

246.

Piper nigrum.

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ORD. XLIII. PALMÆ.

ORD. XLIV. PIPERITÆ.

(From *Piper*, Pepper.)

Plants acrid, or Peppery to the taste.

PIPER NIGRUM. BLACK PEPPER.

SYNONYMA. Piper nigrum. *Pharm. Lond. & Edinb.* *Gerard Emac. p.* 1538. *Park. Theat. p.* 1603. Piper rotundum nigrum. *Bauh. Pin. p.* 411. *Raii Hist. p.* 1341. *Plukenet. Almag. p.* 297. *t.* 437. *fig.* 1. Piper nigrum. *Camel. Phil. Trans. vol.* 24. *p.* 1773. Molago codi. *Hort. Malab. vol.* 7. *p.* 23. *tab.* 12. Pepper Plant. *Marsden's History of Sumatra, p.* 105. *Ic. Miller's Illustr.*

Class Diandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 43.

Ess. Gen. Ch. *Cal.* 0. *Cor.* 0. *Bacca* monosperma.

Sp. Ch. P. foliis ovatis septemnerviis glabris, petiolis simplicissimis.

THE root is perennial: the stems are round, smooth, jointed, swelling towards each joint, woody, slender, branched, scandent, or trailing, and from eight to twelve feet in length: the leaves are ovate, entire, smooth, seven-nerved, of a dark green colour, and stand at the joints of the branches upon strong sheath-like footstalks: the flowers are small, white, and produced in terminal

spikes: there is no regular calyx nor corolla: the filaments also are wanting: the two antheræ are roundish, and placed oppositely at the base of the germen: the germen is ovate, upon which stand three rough stigmata: there is no style: the fruit is a single-valved berry, containing one round seed.

This species of Pepper grows spontaneously in the East Indies, but does not arrive at perfection without the aid of culture. It is cultivated with such success at Malacca, Java, and especially at Sumatra, that from these islands Pepper is exported to every part of the world, where a regular commerce has been established.

According to Mr. Marsden,[a] the ground chosen by the Sumatrans for a Pepper garden, is marked out into regular squares of six feet, the intended distance of the plants, of which there are usually a thousand in each garden. The next business is to plant the chinkareens, which serve as props to the Pepper vines, and are cuttings of a tree of that name, which is of quick growth. When the chinkareen has been some months planted, the most promising perpendicular shoot is reserved for growth, and the others lopped off; this shoot, after it has acquired two fathoms in height, is deemed sufficiently high, and its top is cut off. Two Pepper vines are usually planted to one chinkareen, round which the vines twist for support; and after being suffered to grow three years (by which time they acquire eight or twelve feet in height) they are cut off about three feet from the ground, and being loosened from the prop are bent into the earth in such a manner that the upper end is returned to the root. This operation gives fresh vigour to the plants, and they bear fruit plentifully the ensuing season. The fruit, which is produced in long spikes, is four or five months in coming to maturity: the berries are at first green, turn to a bright red when ripe and in perfection, and soon fall off if not gathered in proper time. As the whole cluster does not ripen at the same time, part of the berries would be lost in waiting for the latter ones; the Sumatrans therefore pluck the bunches as soon as any of

[a] See *l. c. p.* 107.

the berries ripen, and spread them to dry upon mats, or upon the ground. By drying they become black, and more or less shrivelled, according to their degree of maturity. These are imported here under the name of *black pepper*.

White pepper [b] is the ripe and perfect berries stripped of their outer coats: for this purpose the berries are steeped for about a fortnight in water, till by swelling their outer coverings burst; after which they are easily separated, and the pepper is carefully dried by exposure to the sun. Pepper which has fallen to the ground over-ripe loses its outer coat, and is sold as an inferior kind of white pepper.

Of these pungent hot spices the black sort is the hottest and strongest, and most commonly made use of for medicinal as well as culinary purposes. They differ from most of the other spices in this, that their pungency resides not in the volatile parts, or essential oil, but in a substance of a more fixed kind, which does not rise in the heat of boiling water.[c] This fixed substance is probably the resinous part: the aromatic odorous matter seems to depend upon the essential oil. The distilled oil smells strongly of the pepper, but has very little acrimony; the remaining decoction, inspissated, yields an extract of considerable pungency. A tincture made in rectified spirit is extremely hot and fiery; a few drops of it set the mouth as it were in a flame.

Some have supposed Pepper to be less heating to the system than other aromatics; and the learned Gaubius asserts, that on taking it in large quantities he never found it to warm his stomach, nor to increase the frequency of his pulse.[d] But Dr. Cullen affirms, that when he took this spice, even in a small quantity,

[b] White Pepper was formerly thought to be a different species from the black, and was sold at the sales of the East India Company (who have the monopoly of the Sumatran pepper trade) for treble the price of the black. *Marsden, l. c.*

[c] Gaubius found that the Pepper required to be boiled forty-three times in fresh quantities of water before its whole pungency was extracted. *Adversar. p.* 52.

[d] *L. c. p.* 73.

it always felt warm on his stomach, and heated his whole body; and he thinks it was owing to the frequent use of Pepper that Gaubius did not experience the same effects.[e]

Black Pepper is generally used as an aromatic and stimulant. It has been successfully employed in some cases of vertigo,[f] and paralytic and arthritic disorders.[g] Given in large doses it has been found a remedy for intermittents; but its use in these has, in some instances, produced fatal consequences.[h]

[e] *Mat. Med. vol.* 2. *p* 208.

[f] *Hoffman. Rem. domest.* §. 26. and others.

[g] *Obs. phys. & lit. vol.* 3. *p.* 449. [h] See *Act. Soc. Med. Hav. vol. i. p.* 386.

PIPER LONGUM. LONG PEPPER.

SYNONYMA. Piper longum. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 1539. *Park. Theat. p.* 1604. *Raii. Hist. p.* 1343. *Rumph. Amb. vol.* 5. *p.* 333. *t.* 116. *f.* 2. *Pis. Mant. Aromat. p.* 182. *Clus. Exot. p.* 20. 183. Piper longum orientale. *Bauh. Pin. p.* 412. Piper longum pistolochiæ foliis absque pediculis, maderaspatanum. *Pluk. Alm. p.* 297. *t.* 104. *f.* 4. Cattu-tripali. *Rheed. Hort. Mal. V.* 7. *p.* 27. *t.* 14.

Class Diandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 43.

Ess. Gen. Ch. *Cal.* 0. *Cor.* 0. *Bacca* monosperma.

Sp. Ch. P. foliis cordatis petiolatis sessilibusque.

THE root is perennial: the stems are shrubby, round, smooth, branched, slender, and climbing; but do not rise to any considerable height: the leaves differ much in size and form; they are commonly heart-shaped, pointed, entire, smooth, nerved, of a deep green colour, and stand alternately upon footstalks: the

Pipsissewa longifolium

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Acorus Calamus.

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flowers are small, and produced in short dense terminal spikes, which are nearly cylindrical: the parts of inflorescence, though less distinct, correspond with the description given of the former species. It is a native of the East Indies, especially Java, Malabar, and Bengal.

The berries, or grains, are very small, and lodged in a pulpy matter; like those of the black pepper they are first green, and become red when ripe. This fruit is hottest to the taste in its immature state, and is therefore gathered while green, and dried by the heat of the sun, when it changes to a blackish or dark grey colour.[a]

It is observed by Dr. Cullen, that Long pepper has precisely the same qualities with those of black, only in a weaker degree:[*] Bergius also judges black pepper to be hotter than this species; an opinion which appears to us unfounded, and the contrary is asserted by Lewis and Murray: the latter says, "Ad meum aliorumque quorundam sensum, in lingua acrius et calidius adhuc est Piper longum reliquis dictis speciebus."[b]

[a] *Rumph. l. c.*

[*] *Mat. Med. vol. ii. p.* 209. [b] *App. Med. vol. 5. p.* 36.

ACORUS CALAMUS. SWEET FLAG, Or ACORUS.

SYNONYMA. Calamus aromaticus. *Pharm. Lond. & Edinb.* Acorus verus, sive Calamus aromaticus officinarum. *Bauh. Pin. p.* 34. *Park. Theat. p.* 140. *Raii Hist. p.* 1313. *Synop. p.* 437. Acorus verus, officinis falsò Calamus. *Gerard. Emac. p.* 62. Acorus. *Hall. Stirp. Helv. n.* 1307. Acorus Calamus. *Hudson. Flor. Ang. p.* 147. *Withering. Bot. Arr. p.* 357. *Relhan. Flor. Cant. p.* 140. Thach xuog bô. *Flor. Cochin. p.* 208.

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 434.

Ess. Gen. Ch. *Spadix* cylindricus, tectus flosculis. *Cor.* 6-petalæ, nudæ. *Stylus* nullus. *Caps.* 3-locularis.

Sp. Ch. A. scapi mucrone longissimo foliaceo. *Hort. Kew.*

THE root is perennial, horizontal, crooked, pointed, fibrous, somewhat compressed, about an inch thick, externally yellowish, with a greenish tinge, rugose, internally whitish, and of a spongy texture: the leaves are long, sword-shaped, sheathing one another, and commonly undulated on one side: the flowers are small, numerous, and produced on a spadix or conical spike at the edge of the leaf: there is no calyx: the corolla is composed of six petals, which are small, membranous, concave, and appear truncated: the six filaments are thick, somewhat longer than the petals, and furnished with double antheræ: the germen is gibbous, oblong, without a style, and terminated by a pointed stigma: the capsule is oblong, triangular, and divided into three cells, containing numerous oval seeds.

According to Linnæus, this is the only true aromatic plant indigenous to northern climates. It is common in many parts of England, and usually grows in stagnant waters, and the sides of rivers, producing its flowers in May and June.

The roots of Calamus aromaticus have been long medicinally employed,[a] and were formerly imported here from Asia and the Levant; but those of English growth are now very generally substituted, and found to be little or nothing inferior to the exotic sort, which is merely a variety of the same species.[b]

The root, in its dried state, has a moderately strong aromatic smell, and a warm pungent bitterish taste. Water is found to extract the bitter matter of the root most completely, and rectified

[a] The virtues of Calamus aromaticus are noticed both by the Greeks and Arabians. See *Dios. L.* 1. *c.* 2. *Alpin. p.* 141.

[b] Vide. *Lin. Sp. Pl. p.* 462.

Arum maculatum

Published by W. Phillips, Feb.y 1.st 1816.

spirit that of the aromatic. It imparts its virtues to water in distillation along with a small quantity of essential oil, amounting only to two ounces from fifty pounds of the root, according to Hoffman; but Neuman and Cartheuser obtained the oil in a much larger proportion.

The root of Calamus, though not heating like the spices, manifests to the taste considerable pungency, and a moderate share of bitterness, and has therefore been deemed useful as a warm stomachic, and was formerly much used here in combination with the more simple bitters, which, by this addition, were rendered more grateful and carminative. It has been recommended in vertigo, proceeding from a vitiated stomach,[c] and in intermittent fevers, which we are told were cured by this root, after the bark had failed.[d] We are also informed of its efficacy in scorbutic and hæmorrhagic complaints;[e] but to this, little credit will be given, and much less to the supposed elexipharmic power of Calamus, though it is an ingredient in the theriaca and mithridate of dignified memory, and still is much used in eastern countries as a preservative against contagion.

[c] *De Mayerne. Prax. Med. p.* 59. [d] *Act. Societ. Med. Havn. vol. p.* 206.

[e] *See Murray App. Med. v.* 5. *p.* 42.

ARUM MACULATUM. COMMON ARUM, or WAKE-ROBIN.

SYNONYMA. Arum. *Pharm. Lond. & Edin.* Arum foliis sagittatis, spatha recta, clava cylindrica. *Hal. Stirp. Helv.* n. 1302. Arum minus. *Camerar. Epit.* p. 367. Arum maculatum et vulgare non maculatum. *Bauh. Pin.* 195. Arum vulgare maculatum et non maculatum. *Park.* 372. Arum vulgare. *Gerard. H.* 834. *Raii Hist.* 1208. *Wake-Robin Cuckow-pint. Raii Synop.* 266. Arum Maculatum. *Flor. Dan.* 505. *Flor. Lond. Withering's Bot. Arrang.* 1012. *Relhan's Flor. Cant.* 342.

Varietates sunt.

α Arum vulgare non maculatum. *Bauh. Pin.*

β Arum maculatum, maculis candidis, vel nigris. *Bauh. Pin.*

γ Arum *italicum*, foliis hastatis acutis, petiolis longissimis, spatha maxima erecta. *Mill. Dict.*

Class Gynandria. *Ord.* Polyandria. *L. Gen. Plant.* 1028.

Ess. Gen. Ch. *Spatha* monophylla, cucullata. *Spadix* supra nudus, inferne femineus, medio stamineus.

Sp. Ch. A. acaule, foliis hastatis integerrimis, spadice clavato.

THE root is perennial, tuberous, about the size of the thumb, sending off many long simple fibres: the leaves are commonly three or four, growing from each root; these are arrow-shaped, of a deep green or purplish colour, beset with many veins and dark spots, and stand upon long grooved and somewhat triangularly shaped footstalks; the flower stalk is very short and channelled; the calyx is a sheath of one leaf, large, oval, nerved, and enclosing the spadix, which is round, club-shaped, fleshy, above of a purple colour, below whitish, standing in the centre of the sheath, and supporting the parts necessary to fructification: on tracing it towards the base we first discover the nectaries, or several oval corpuscles, which are terminated by long tapering points; next to these are placed the antheræ, which are quadrangular, united, and of a purple colour; under these we find again more nectaries, and lastly the germina, which are very numerous, round, without styles, and crowned with small bearded stigmata. This curious species of inflorescence displays itself early in spring, but the berries do not ripen till late in the summer, when they appear in naked clusters, of a bright scarlet colour, making a conspicuous appearance under the hedges, where they commonly grow.

[Arum, by a modern botanist, is arranged under the class Monœcia.]

The root is the medicinal part of the plant, which in a recent and lactescent state is extremely acrimonious, and upon being chewed excites an intolerable sensation of burning and pricking in the tongue, which continues for several hours: when cut in slices and applied to the skin, it has been known to produce blisters. This acrimony, however, is gradually lost by drying, and may be so far dissipated by the application of heat, as to leave the root a bland farinaceous aliment;[a] its medical efficacy therefore resides wholly in the active volatile matter, and consequently the powdered root must lose much of its power on being long kept, a circumstance which very properly caused the omission of the Pulvis ari compositus in the last edition of our Pharmacopœia. Lewis says, "the fresh and moderately dried roots were digested in water, in wine, in proof spirit, and in rectified spirit, with and without heat: the liquors received no colour, and little or no taste. In distillation neither spirit nor water brought over any sensible impregnation from the Arum. The root, nevertheless, loses in these operations almost the whole of its pungency."[b] The qualities of this root are thus enumerated by Bergius: "Virtus *recent. siccatæ:* stimulans, aperiens, incidens, diuretica; *recentis* vehementissima; *annosæ* ‖ nutriens."[c]—Dr. Cullen[d] seems to consider it as a general stimulant, not only exciting the activity of the digestive powers, where they happen to be languid, but stimulating the whole system; in proof of this he observes, that it has been useful in intermittent fevers. Arum, by ancient writers, is

[a] In this state it has been made into a wholesome bread. It has also been prepared as starch. The root, dried and powdered, is used by the French to wash the skin with, and is sold at a high price, under the name of *Cypress Powder:* It is undoubtedly a good and innocent cosmetic. Withering l. c.——These roots are said to possess a saponaceous quality, and have been used in washing linen, to supply the place of soap. Raii Hist. p. 1208.

[b] Lewis M. M. 119. [c] M. M. 722. [d] M. M. vol. ii. 212.

‖ Tales radices Ari annosæ vix acres sunt, prout supra monuimus, & quæ restare potest acrimonia, mitigatur penitus ebullitione. Cæterum plures Ari species apud varias gentes esculentæ sunt. Nutriunt omnes suo farinoso. Bergius, l. c.

much commended, both as an external and as an internal remedy, and is said that " Ratione particularum tenuium & volatilium mucum viscidum & spissum ventriculi & intestinorum parietibus adhærentem potenter incidit, attenuat, atque resolvit;" and was prescribed in all that numerous class of diseases formerly supposed to proceed a succorum lentore. Bergius considers it useful in Colluvies pituitosa, Anorexia, Cephalæa sympatica,[e] Asthma humorale, Cachexia, Febris intermittens. Arum is certainly a very powerful stimulant, and by promoting the secretions may be advantageously employed in cachectic and chlorotic cases, in rheumatic affections, and in various other complaints of phlegmatic and torpid constitutions; but more especially in a weakened or relaxed state of the stomach, occasioned by the prevalence of viscid mucus. If this root is given in powder, great care should be taken that it be young and newly dried, when it may be used in the dose of a scruple or more twice a day: but in rheumatisms and other disorders requiring the full effects of this medicine, the root should be given in a recent state, and to cover the insupportable pungency it discovers on the tongue, Dr. Lewis advises us to administer it in the form of emulsion, with gum arabic and spermacæti, increasing the dose from ten grains to upwards of a scruple three or four times a day; in this way " it generally occasioned a sensation of slight warmth about the stomach, and afterwards in the remoter parts manifestly promoted perspiration, and frequently produced a plentiful sweat. Several obstinate rheumatic pains were removed by this medicine, which is therefore recommended to further trial."

[e] Bergius speaks highly of the efficacy of Arum in these headachs, which were of the most violent kind, and resisted all the means he employed, till he used the powder of this root, which never failed to relieve them.

Amomum Zingiber.

Published by W. Phillips, Feb.ry 1.st 1810.

ORD. XLV. SCITAMINEÆ.

(From *Scitamentum,* meat of a pleasant taste.)

All this order consists of beautiful exotics.

AMOMUM ZINGIBER. NARROW-LEAVED GINGER.

SYNONYMA. Zingiber, *Pharm. Lond. & Edinb.* Amomum Zingiber, *Jacquin Hort. Vindob. vol.* 1. *t.* 75. Zingiber, *Browne's Jam.* 119. *Sloane's Jam.* 1. *p.* 163. Inschi. *Rheed. Mal.* Z. angustiori folio, &c. *Pluk. Alm.* Zingiber Majus, *Rumph. Amb.* 5. *p.* 156. ζιγγιβερις, *Dioscorid.* ζιγγιβερ, *Galen.*

Class Monandria. *Order.* Monogynia. *L. Gen. Plant.* 2.

Ess. Gen. Ch. *Cor.* 4-fida: lacinia prima patente.

Sp. Ch. A. scapo nudo, spica ovata.

THE root is perennial, firm, knotted, of a compressed roundish form, beset with transverse rugæ, covered with ash coloured bark, partly of a purplish tinge, and sends forth many long fibres and off-sets; the internal substance of the younger roots is softish, fleshy, and greenish; of the older, it is compact, fibrous, whitish, and when powdered has a yellowish appearance: the stalks are about three feet high, round, inclosed in an imbricated membraneous sheathing; the leaves are sword-shaped, smooth, pointed, entire, and stand alternately upon the sheathes of the stalk; the

scapus, or flower-stem, rises about a foot high, it is erect, round, alternately sheathed like the stalks, without leaves, and terminates in an oval, obtuse, bracteal, imbricated spike; the corollæ, or flowers, appear between the bracteal scales of the spike, two or three at a time; they are of a dingy yellow colour, monopetalous, tubular, and cut into three unequal, acute, segments, which have their points curled backwards; the nectary occupies the faux or mouth of the tube of the corolla, and has a bilabiated appearance; the lip is obtusely *trifid*, of a reddish purple colour, and marked with many yellowish dots: but what seems like the upper lip is the stamen, or filament, which is convex outwardly, concave within, and gradually tapers from its base to its apex, where it is coloured like the nectary. The antheræ are two, oblong, whitish, and lodged together in the cavity of the stamen: the style is long and filiform: the stigma obtuse and villous: the capsule is three-celled, and contains many seeds.

The Ginger plant is a native of the East Indies,[a] and is said to grow in the greatest perfection on the coast of Malabar and Bengal;[b] but it is now plentifully cultivated in the warmer parts of America,‡ and in the West-India islands, from whence chiefly it is imported into Europe. In 1731, it was first introduced into

[a] The following observation, made by Rumphius, seems however to deserve some notice: Quondam omne Zingiber petebatur ex illa Africæ parte, quæ mari rubro adjacet tam intra quam extra illud, tum Arabia Trogloditica dicta, cujus incolæ hodie ab Arabibus vocantur *Zingi* seu *Zangi* h. e. nigri seu adusti Æthiopes, unde & nomen Zingiber seu Zingibel ortum duxit, ac si discretur, radices ex Æthiopia, atque hinc jam innotuit antiquis etiam scriptoribus, uti *Dioscorid. lib.* 2. *cap.* 154. *Galeno. lib.* 6. *med. simp.* ubi dicit Zingiber deferri ex Barbaria, per quam vocem intelligenda est orientalis Africæ plaga. vide Herb. Amboin. vol. v. p. 157. [b] Rumph. l. c.

‡ India Orientali per Hispanos ac præsertim per Franciscum de Mendosa, filium imperatoris Anthonii de Mendosa cum aliis aromaticis herbis in novam Hispaniam deductum est, *teste Monardo simp. Medic. cap.* 18. Rumphius, l. c.— Upon the death of Mendosa, these plants were neglected, and all lost but the Ginger. Ginger is said by some to grow wild in America, but Jacquin says, "Sylvestrem in America non vidi."

this country by Mr. P. Miller,[c] and is still carefully cultivated in the dry stoves of the curious. The flowers have a sweet fragrant smell, and the leaves and stalks, especially when bruised, also emit a faint spicy odour, but the hot acrid aromatic taste is entirely confined to the root.

" In Jamaica Ginger attains its full height, and flowers about August or September, and fades about the close of the year. When the stalks are entirely withered, the roots are in a proper state for digging: this is generally performed in the months of January and February. After being dug, they are picked, cleansed, and gradually seethed, or scalded in boiling water; they are then spread out, and exposed every day to the sun, till sufficiently dried; and after being divided into parcels of about 100 lb. weight each, they are packed in bags for the market: this is called the Black Ginger."[d] White Ginger is the root of the same plant, but instead of the roots being scalded, by which they acquire the dark appearance of the former, each root is picked, scraped, separately washed, and afterwards dried with great care; of course more than a double expense of labour is incurred, and the market price is proportionably greater.* Black Ginger loses part of its essential oil by being thus immersed in boiling water;[e] on this account it is less useful for medical and other purposes than the white, which is always good when perfectly sound and free from worm-holes: but that imported from the East-Indies is stronger than any we have from Jamaica. Ginger gives out its virtues perfectly to rectified spirit, and in a great measure to water. According to Lewis,[f] its active principles are of a remarkably

[c] Aiton's Hort. Kewen.

[d] Long's History of Jamaica, p. 700.

* Rumphius remarks also, " Rubræ speciei radices crassiores sunt, magisque nodosæ, externe plerumque cinerea primum, atque sub hac purpurea rubente obductæ pellicula, uti & ipsarum caro ad oras rubet, &c. l. c.

[e] We mention this on the authority of Jacquin, vide Hort. Vindob. vol. 1, No. 75.

[f] Mat. Med. Ackin's edition, p. 678.

fixed nature; for a watery infusion of this root being boiled down to a thick consistence, dissolved afresh in a large quantity of water, and strongly boiled down again, the heat and pungency of the root still remained, though with little or nothing of its smell. Ginger is generally considered as an aromatic, less pungent and heating to the system, than might be expected from its effects upon the organs of taste. Dr. Cullen thinks, however, that there is no real foundation for this remark.[g] It is used as an antispasmodic and carminative. The cases in which it is more immediately serviceable, are flatulent colics, debility and laxity of the stomach and intestines, and in torpid and phlegmatic constitutions to excite brisker vascular action. It is seldom given but in combination with other medicines. In the Pharmacopœias it is directed in the form of a syrup and a condiment,[h] and in many compositions it is ordered as a subsidiary ingredient.

[g] Cullen's Mat. Med. vol. ii. p. 206.

[h] For this purpose the root should not be older than four or five months. Of the very young roots the aromatic taste is peculiarly grateful. "Junior recens crudaque radix in Martinica in mensis apponitur, parvaque ejusdem portio solet cum bubula elixa comedi. Est etiam tunc insigniter acris, sed aroma longe gratius possidet, quam exsiccata." Jacquin. l. c.

AMOMUM REPENS, seu CARDAMOMUM. — OFFICINAL CARDAMOM.

SYNONYMA. Cardamomum minus. *Pharm. Lond. & Edinb. Gerard. Emac.* p. 1547. *Park. Theat.* p. 1576. Cardamomum simpliciter in officinis dictum. *Bauh. Pin.* p. 414. Cardamomum cum siliquis seu thecis brevibus. *J. Bauh. Hist. vol. ii. p.* 205. Amomum repens, seu Le Cardamome de la Côte de Malabar. *Sonnerat Voyage aux Indes oriental. tom. ii. p.* 240. *tab.* 136. Alia species est Amomum Cardamomum L. scapo simplicissimo brevissimo.

Amomum repens seu Cardamomum.

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Class Monandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 2.

Ess. Gen. Ch. *Cor.* 4-fida: lacinia prima patente.

Sp. Ch. A. scapis ramosis elongatis decumbentibus.

Smith, Syst. Veg. ined.

THE root is perennial: the stalks are simple, sheathy, erect, grow to a considerable height, and beset with leaves, which are lance-shaped, large, entire, acutely pointed, ribbed, and stand alternately upon the sheaths of the stalk: the flower stalk proceeds immediately from the root, and creeps along the ground: it is commonly about a foot and a half in length, articulated, in a zig-zag form,* and producing numerous flowers, which are placed upon divided stipulated peduncles, arising from the articulations: the calyx is small, and obtusely divided into three teeth at the margin: the corolla is monopetalous, composed of a narrow tube, divided at the mouth into four segments; of these the three outermost are long, narrow, uniform, and of a straw colour, but the central one, which has been considered as a nectary, is large, broad, concave, of an irregular oval shape, and marked with violet coloured stripes: the filament is membranous, strap-shaped, shorter than the segments of the corolla, to the top of which the anthera is joined: the germen is roundish, and placed below the insertion of the tube of the corolla: the style is filiform, of the length of the filament, and supplied with an obtuse stigma: the capsule is triangular, divided into three cells and valves, containing several small dark coloured seeds.

This plant is a native of the East Indies, and according to Sonnerat grows abundantly on the Malabar Coast:[a] it differs considerably from the Amomum Cardamomum of Linnæus, as appears

* In a specimen of this plant, which we have seen in the Herbarium of Sir Joseph Banks, this appearance is very remarkable.

[a] L. c.

by the specific character he has given it, and the figures to which it is referred to in his Species Plantarum.[b] Sonnerat, who first discovered the Amomum repens, and on whose authority it is considered to afford the seeds officinally known by the name of Cardamomum minus, informs us, that this plant abounds so plentifully on a certain mountain on the Coast of Malabar, that it is called the Mountain of Cardamoms, from which all India is supplied with the seeds.

The Cardamoms imported into Europe have been distinguished by the names Cardamomum majus, medium, & minus; the distinction depending upon the respective sizes of their seeds; but the different species from which the two former are said to have been produced, are so imperfectly described, and their botanical histories so confused, that we are unable to give any satisfactory information concerning them; and whether the Amomum verum of the ancient Greek writers is referable to our Cardamom, seems also equally uncertain.

The seeds of the Cardamomum minus, which are now generally preferred for medicinal purposes, are brought to us in their capsules, or husks, by which they are preserved; for they soon lose a part of their flavour when freed from this covering. "Their virtue is extracted not only by rectified spirit, but almost completely by water also; with this difference, that the watery infusion is cloudy or turbid, the spirituous clear and transparent. Scarcely any of the aromatic seeds give out so much of their warmth to watery menstrua, or abound so much with gummy matter, which appears to be the principle by which the aromatic part is made dissoluble in water: the infusion is so mucilaginous, even in a dilute state, as hardly to pass through a filter."

"In distillation with water, a considerable quantity of essential oil separates from the watery fluid, of a pale yellowish colour, in smell exactly resembling the Cardamoms, and of a very pungent

[b] Elettari. *Hort. Malab. vol. ii. tab. 5.*
Rumph. *Amboin. vol. v. tab.* 65.

Curcuma longa

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taste: the remaining decoction is disagreeably bitterish, and mucilaginous. On inspissating the tincture made of rectified spirit, a part of the flavour of the Cardamoms arises with the spirit; but the greatest part remains behind, concentrated in the extract, which smells moderately of the seeds, and has a pungent aromatic taste, very durable in the mouth, and rather more grateful than that of the seeds in substance."[c]

Cardamom seeds, on being chewed, impart a glowing aromatic warmth, and grateful pungency: they are supposed gently to stimulate the stomach, and prove cordial, carminative, and antispasmodic, but without that irritation and heat which many of the other spicy aromatics are apt to produce. We are told by Sonnerat, that the Indians use it much, and believe it to strengthen the stomach, and assist digestion. Physicians, however, consider Cardamoms merely as an aromatic, and prescribe them in conjunction with other medicines, which they are intended to correct or assist.

Simple and compound spirituous tinctures of these seeds are directed by the Pharmacopœias; they are also ordered as a spicy ingredient in many of the officinal compositions.

[c] Lewis, *Mat. Med. p.* 194.

CURCUMA LONGA. LONG-ROOTED TURMERIC.

SYNONYMA. Curcuma. *Pharm. Lond. & Edinb.* Cannacorus radice crocea, sive Curcuma officinarum. *Tourn. Inst. p.* 367. Curcuma longa. *König, in Rez. Obs. bdt. fasc.* 3. *p.* 72. Curcuma radica longa. *Zanon. Hist. Pl. ed. Mont. p.* 86. *tab.* 59. Curcuma domestica major. *Rumph. Herb. Amboin. tom.* 5. *p.* 162. *tab.* 67. Manjella-Kura. *Hort. Halab. tom.* 11. *p.* 21. *tab.* 11. Amomum Curcuma. *Jacquin, Hort. Vindob. tom.* 3. *p.* 5. *tab.* 4.

Class Monandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 6.

Ess. Gen. Ch. *Stamina.* 4-sterilia, quinto fertili.

Sp. Ch. C. foliis lanceolatis: nervis lateralibus numerosissimis.

THE root is perennial, tuberous, and furnished with strong fibres, externally brownish, and internally of a deep yellow colour: the leaves are radical, large, lance-shaped, obliquely nerved; at the bottom, vaginal, and closely embracing each other: the scapus, or flower stem, rises from the centre of the leaves; it is short, thick, smooth, and forms a spike of numerous bracteal imbricated scales, between which the flowers successively issue: the corolla is monopetalous, consisting of a narrow tube, divided at the mouth into three oval segments: the nectarium occupies the wide undersinus of the corolla, and is the most conspicuous part of the flower; it is of a flesh colour, petal-like, large, spreading, and cut into three divisions, of which the middlemost is the largest: the filaments are five, four of which are erect, slender, linear, contracted, sterile; the fifth is petal-formed, lodged within the nectarium, and cleft at the top, to which the anthera is adjoined: the germen is roundish, and placed below the corolla: the style is the length of the filament, and furnished with a simple hooked stigma: the capsule is roundish, three-celled, three-valved, and contains numerous small seeds.

Turmeric is a native of the East Indies, and common in the gardens of the Chinese; it grows abundantly in Malacca, Java, and Balega.[a] It was first cultivated in England by Mr. P. Miller in 1759.[b] The root of this plant has been long officinally known, and passed under different names, as Crocus indicus, Terra merita, &c. In its dried state, as imported here, it is various in shape; externally of a pale yellow colour, wrinkled, solid, ponderous, and the inner substance of a deep saffron or gold colour; its odour is somewhat fragrant, and to the taste it is bitterish, slightly acrid,[c]

[a] Vide König, Rumphius, and Bontius.

[b] *Hort. Kew.*

[c] The Chinese use it as a sternutatory.

exciting a moderate degree of warmth in the mouth, and on being chewed it tinges the saliva yellow. It has been very generally employed for the purpose of dying,[d] and in eastern countries it is much used for colouring and seasoning of food.[e]

" This root gives out its active matter both to aqueous and spirituous menstrua. In distillation with water, it yields a small quantity of gold-coloured essential oil, of a moderately strong smell, and a pungent taste: the remaining decoction, inspissated, leaves a bitterish considerably saline mass. Rectified spirit elevates little or nothing of its virtue; all the active parts being left behind in the inspissated extract."[f]

This root has had the character of being a powerful aperient and resolvent: it has been commonly prescribed in obstructions of the liver, and other chronic visceral affections. The disease in which it has been thought most efficacious is the jaundice; but though the use of this root is highly recommended by several practical writers,[g] it is now very rarely employed; and we are told by Dr. Cullen, that the decoctum ad Ictericos of the Edinburgh Dispensatory, (Ed. 1756) " never had any other foundation than the doctrine of signatures in favour of the Curcuma and Cheledonium majus."[h]

[d] " This substance is very rich in colour, and there is no other which gives a yellow colour of such brightness; but it possesses no durability, nor can mordants give it a sufficient degree: common salt, and ammoniacal muriat, are those which fix the colour best, but they render it deeper." Hamilton's translation of Berthollet's *Elements of the Art of Dying*, vol. ii. p. 280. See also on this subject, Hellot, *L'art. de la Teint. p.* 406. and Pörner, *Chym. Versuche z. Nuz. der Farbekunst, vol. i.* 1. *Abh.* Scharffs *Recepte üb. versch. Gattungen. v. Farb.* 1. *St.*

[e] It enters the composition of the Curry powder which is now much used here.

[f] *Lewis, M. M.*

[g] Of these we may more particularly refer to Bontius, *(De Med. Indor. p.* 115.) F. Hoffman, *(Meth. Med.* in *Med. rat. tom. iii. p.* 542.) Coe, *(on Bileary Concret. p.* 285.)

[h] *Mat. Med. vol. i. p.* 25.

KÆMPFERIA ROTUNDA. ZEDOARY.

SYNONYMA. Zedoaria. *Pharm. Lond. & Edinb.* I. Zedoaria longa. II. Zedoaria rotunda. *Bauh. Pin. p.* 31. *Park. Theat. p.* 1612. *Raii. Hist. p.* 1340. *Gerard, Emac. p.* 1623. Malan-Kua. *Rheed. Hort. Malab. tom.* 11. *p.* 17. *tab.* 9.

Class Monandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 7.

Ess. Gen. Ch. *Cor.* 6-partita: laciniis 3 majoribus patulis, unica bipartita. *Stigma* bilamellatum.

Sp. Ch. K. fol. lanceolatis petiolatis.

THE root is perennial, tuberous, fleshy, compressed, externally of an ash colour, internally of a bluish grey: the flower stem is covered with sheaths, and rises very little above the ground: the leaves are large, radical, nearly elliptical, pointed, veined, and stand upon broad footstalks: the calyx is small and obscure: the corolla is monopetalous, consisting of a long slender conical tube, divided at the upper extremity into six parts, three of which are long, narrow, spreading, inserted below the others, of which two are oval, pointed, and erect; the remaining one is deeply cut into two obversely heart-shaped divisions, of a reddish colour, and beautifully striated with purple: there is but one filament, which is membranous, and notched at the end: the anthera is linear, doubled, entirely adherent, and scarcely rises above the tube of the corolla: the germen is roundish, and supports a style, which is about the length of the tube, furnished with a folded roundish stigma: the capsule is triangular, divided into three cells, and as many valves, and contains numerous small seeds.

On the authority of Linnæus, the Colleges of London and Edinburgh have referred the officinal Zedoary to this plant, which is a native of the East Indies. But Bergius informs us, that he received

Kämpferia rotunda

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a specimen of the Zedoary plant from India, which, upon examination, was found to be a species of Amomum;[a] and it is observed by Murray, that this opinion receives additional weight by the description of Zedoary, or the *Indorum Tamogcansi*, given by Camellus.[b]

It seems no easy task to discover with any tolerable probability, whether this drug was used by the ancients or not; some have supposed it to be the Costus of Dioscorides, the Guiduar of Avicenna, the Zerumbet of Serapion.* But this we leave to those who are ready to decide upon what is merely conjectural.

The roots of Zedoaria, longa and rotunda, are both produced by the same species of plant, and are indiscriminately used in the shops; the former are brought to us in oblong pieces, about the thickness of the little finger, two or three inches in length, bent, rough, and angular; the latter are roundish, about an inch in diameter, of an ash colour on the outside, and white within.

"This root has an agreeable camphoraceous smell, and a bitterish aromatic taste. It impregnates water with its smell, a slight bitterness, a considerable warmth and pungency, and a yellowish brown colour: the reddish yellow spirituous tincture is in taste stronger, and in smell weaker, than the watery. In distillation with water it yields a thick ponderous essential oil, smelling strongly of the Zedoary, in taste very hot and pungent."[c]

Cartheuser, who ascribes the virtues of Zedoary to a camphoraceous volatile oil, considers it as a general remedy for most of the chronic diseases with which humanity is afflicted;[d] but as the cam-

[a] "Plantam habui ex Cochinchina, figuræ Rheedeanæ convenientem, lectam a Cl. Joanne de Loureyro & comparatam sub itinere Chinensi, Cl. Car. G. Exeberg, Centurione & navis Gubernatore, de scientia botanices bene merito." *Mat. Med. p.* 5. He calls it, *A. scapo nudo, spica laxa truncata;* and makes its synonyma to be, Kua. *Rheed. Malab.* 11. *p.* 13. *t.* 7. Tommon itam. *Rumph. Amb.* 5. *p.* 169. *Zedoaria Camell. Stirp. Luz. p.* 23.

[b] See *Raii, Hist. plant. vol. 3. in App.*

* See on this subject, S. G. Manitius. *De ætatibus Zedoariæ relatio. Dresd.* 1691.

[c] *Lewis, M. M. p.* 684. [d] Sect. xiv. §. 3.

phor it contains can avail but little, and its effects as a bitter or aromatic are so very inconsiderable, this root is now deemed to possess very little medicinal power, and might safely be expunged from the Materia Medica;[f] though it still has a place in the confectio aromatica of the London pharmacopœia.

[f] Dr. Cullen says, "I am clear that it might safely be omitted in our lists of the Mat. Med." *Mat. Med. vol. ii. p.* 207.

Lilium candidum

Published by W. Phillips March 1st 1816.

ORD. XLVI. LILIACEÆ.

(From *Lilium*, the Liiy.)

Plants of the Lily tribe, and those resembling it.

LILIUM CANDIDUM. COMMON WHITE LILY.

SYNONYMA. Lilium album. *Pharm. Edinb.* *Gerard Emac.* *p.* 190. *Raii Hist. p.* 1190. Lilium album vulgare. *Park. Parad.* 39. *J. Bauh. Hist. ii. p.* 685.

α Lilium album flore erecto et vulgare. *Bauh. Pin. p.* 76.

β Lilium album floribus dependentibus sive peregrinum. *Bauh. Pin. p.* 76. *Nodding-Flowered White Lily.*

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 410.

Ess. Gen. Ch. *Cor.* 6-petala, campanulata: *linea* longitudinali nectarifera. *Caps.* valvulis pilo cancellato connexis.

Sp. Ch. L. foliis sparsis, corollis campanulatis: intus glabris.

THE root is a large bulb, from which proceed several succulent fibres: the stem is firm, round, upright, simple, and usually rises about three feet in height: the leaves are numerous, long, narrow, pointed, smooth, without footstalks, and irregularly scattered over the stem: the flowers are large, white, and terminate the stem in clusters upon short peduncles: it has no calyx: the corolla is bell-shaped, consisting of six petals, which within are of a beautiful shining white, but without ridged, and of a less luminous whiteness: the filaments are six, tapering, much shorter than the corolla, upon which are placed transversely large orange-coloured antheræ:

the style is longer than the filaments, and furnished with a fleshy triangular stigma: the germen becomes an oblong capsule, marked with six furrows, and divided into three cells, which contain many flattish seeds of a semicircular form. It flowers in June and July.

This Lily, which now very commonly decorates the borders of our gardens with the beautiful whiteness[a] of its flowers, is a native of the Levant, and has been cultivated here since the time of Gerard. The flowers of this plant have a pleasant sweet smell, and were formerly used for medicinal purposes;[b] a watery distillation of them was employed as a cosmetic, and the oleum liliorum was supposed to possess anodyne and nervine powers; but the odorous matter of these flowers is of a very volatile kind, being totally dissipated in drying, and entirely carried off in evaporation by rectified spirit as well as water; and though both menstrua become impregnated with their agreeable odour by infusion or distillation, yet no essential oil could be obtained from several pounds of the flowers. It is therefore the roots only which are now directed by the Edinburgh College: they are extremely mucilaginous, and are chiefly used, boiled with milk or water, in emollient and suppurating cataplasms: it is probable however, that the poultices formed of bread or farina, possess every advantage of those prepared of Lily root.

Lilium ἀ λειριον vel λιριον. By the Greeks it is called κρινον.

[a] Alluding to this, Ovid, in the luxuriancy of his imagination, ascribes its origin to the milk of Juno.

"Dum puer Alcides Divæ vagus ubera suxit
"Junonis, dulci pressa sapore fuit;
"Ambrosiumque alto lac distillavit Olympo
"In terras fusum Lilia pulchra dedit."

Pliny says, *Lilium Rosæ* nobilitate proximum est; and both these flowers have furnished their share of metaphor to ancient and modern poets.

Either singly,

——— vel mixta rubent ubi lilia multâ
Alba rosâ: tales virgo dabat ore colores. Æn. lib. xii. 68.

[b] Particularly as an antiepileptic and anodyne.

Squilla maritima

Published by W. Phillips, March 2nd 1810.

SCILLA MARITIMA. OFFICINAL SQUILL, or, SEA ONION.

SYNONYMA. Scilla. *Pharm. Lond. & Edinb.* Scilla vulgaris radice rubra. *Bauh. Pin. p.* 73. *Raii Hist. p.* 1164. Scilla rubra, sive Pancratium verum. *Park. Parad. p.* 133. Scilla rubra magna vulgaris. *J. Bauh. Hist. ii. p.* 615. Pancratium Clusii. *Gerard. Emac. p.* 172. Ornithogalon maritimum, seu scilla radice rubra. *Tourn. Inst. p.* 381. β Scilla radice alba. *Bauh. l. c.*

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 491.

Ess. Gen. Ch. *Cor.* 6-petala, patens, decidua. *Filamenta* filiformia.

Sp. Ch. S. nudiflora, bracteis refractis.

THE root is large, perennial, bulbous, coated, of a reddish hue, abounding with a tenacious juice, and furnished with many white fibres, which issue from its base: the stem is round, smooth, succulent, and rises two or three feet in height: the leaves are sword-shaped, radical, smooth, pointed, long, and of a deep green colour: the flowers are whitish, produced in a long close spike upon purplish peduncles, and appear in April and May: the bracteæ are linear, twisted, and deciduous: it has no calyx: the corolla is composed of six petals, which are ovate, patent, with a reddish mark in the middle: the filaments are six, tapering, shorter than the corolla, and furnished with oblong antheræ, placed transversely: the germen is roundish, supporting a simple style about the length of the filaments, and furnished with a simple stigma: the capsule is oblong, smooth, marked with three furrows, and divided into three cells, which contain many roundish seeds.

This plant is a native of Spain, Sicily, and Syria, growing in sandy situations on the sea coast, and hence the name *maritima*. It was first cultivated in England at the botanic garden at Oxford about the year 1648.[a] The red rooted variety has been supposed

[a] Vide *Hort. Oxon. ed.* 1. *p.* 48.

to be more efficacious than the white, and is therefore still preferred for medicinal use:[b] it is to the taste very nauseous, intensely bitter, and acrimonious, but without any perceptible smell.——"Water, wine, proof spirit and rectified spirit, extract the virtues both of the fresh and the dry root. Nothing rises in distillation with any of these menstrua, the entire bitterness and pungency of the Squill remaining concentrated in the inspissated extracts: the spirituous extract is in smaller quantity than the watery, and of a proportionably stronger almost fiery taste."

"Alkalines considerably abate both the bitterness and acrimony of the Squill: vegetable acids make little alteration in either, though the admixture of the acid taste renders that of the Squill more supportable. These acids extract its virtue equally with watery or spirituous menstrua."[c]

The root of the Squill, which appears to have been known as a medicine in the early ages of Greece,[d] and has so well maintained its character ever since, as to be deservedly in great estimation, and of very frequent use at this time, seems to manifest a poisonous quality to several animals. In proof of this, we have the testimonies of Hillefeild,[e] Bergius,[f] Vogel,[g] and others. Its acrimony is so great that even if much handled it exulcerates the skin; and if given in large doses, and frequently repeated, it not only excites nausea, tormina, and violent vomitings, but it has been known to produce strangury, bloody urine, hypercatharsis, cardialgia, hæmorrhoids, convulsions, with fatal inflammation and

[b] It may be observed, that this red colour is only confined to the outer coats of the root.

[c] Lewis, *M. M.*

[d] Some refer its introduction to medical use to Epimenides; others to Pythagoras. Vide Haller, *Bib. Bot. p.* 12. It was sometimes called Σκιλλα, and sometimes Παγκρατιον, and is noticed by Dioscorides, Hippocrates, Galen, Aëtius, Celsus, Pliny, Cælius Aurelianus, and the Arabian physicians.

[e] *Diss. Experim. circa venena, p.* 12.

[f] *Mat. Med. p.* 265. [g] *V. in* Hillef. *p.* 18.

gangrene of the stomach and bowels.[h] But as many of the more active articles of the Materia Medica, by injudicious administration, become equally deleterious, these effects of the Scilla do not derogate from its medicinal virtues; on the contrary, we feel ourselves fully warranted in representing this drug, under proper management, and in certain cases and constitutions, to be a medicine of great practical utility, and real importance in the cure of many obstinate diseases. Its effects, as stated by Bergius, are *incidens diuretica, emetica, subpurgans, hydragoga, expectorans, emmenagoga.*[i] In hydropical cases it has long been esteemed the most certain and effectual diuretic with which we are acquainted; and in asthmatic affections,[k] or dyspnœa, occasioned by the lodgment of tenacious phlegm, it has been the expectorant usually employed.[l] The Squill, especially in large doses, is apt to stimulate the stomach, and to prove emetic; and it sometimes acts upon the intestines, and becomes purgative; but when these operations take place, the medicine is prevented from reaching the blood vessels and kidneys, and the patient is deprived of its diuretic effects; which are to be obtained by giving the Squill in smaller doses, repeated at more distant intervals,[m] or by the joining of an opiate to this medicine, which was found by Dr. Cullen to answer the same purpose. The Dr. further observes, that from a continued repetition of the Squill, the dose may be gradually increased, and the intervals of its exhibition shortened; and when in this way the doses come to be tolerably large, the opiate may be most conveniently employed to direct the operation of the Squill more certainly to the kidneys. "In cases of dropsy; that is, when

[h] See Lange, *de remed. Bruns. domest. p.* 176. Also Quarin, *Animadv. pract. p.* 166.

[i] *L. c.*

[k] All the authors who have written on these diseases, might here be cited.

[l] We do not notice its use as an emetic, as we think it entirely superseded by the ipecacuanha.

[m] This is mentioned on the authority of Dr. Cullen. *M. M. v. ii. p.* 558.

there is an effusion of water into the cavities, and therefore that less water goes to the kidneys, we are of opinion, that neutral salt, accompanying the Squill, may be of use in determining this more certainly to the kidneys: and whenever it can be perceived that it takes this course, we are persuaded that it will also be always useful, and generally safe during the exhibition of the Squills to increase the usual quantity of drink."[n]

The diuretic effects of Squills have been supposed to be promoted by the addition of some mercurial; and the less purgative preparations of mercury, in the opinion of Dr. Cullen, are best adapted to this purpose; he therefore recommends a solution of corrosive sublimate, as being more proper than any other, because most diuretic.

Where the primæ viæ abound with mucous matter, and the lungs are oppressed with viscid phlegm, this medicine is likewise in general estimation.

As an expectorant, the Squill may be supposed not only to attenuate the mucus, and thus facilitate its ejection, but by stimulating the secretory organs and mucous follicles, to excite a more copious excretion of it from the lungs, and thereby lessen the congestion, upon which the difficulty of respiration very generally depends. Therefore in all pulmonic affections, excepting only those of actual or violent inflammation, ulcer, and spasm, the Squill has been experienced to be an useful medicine.

The officinal preparations of Squills are a conserve, dried Squills,* a syrup, and vinegar, an oxymel, and pills. Practitioners

[n] Cullen, *l. c.*

* "We must not, however, miss to observe here, that the drying of the Squill is a business that requires much attention, as it may be readily over done, and thereby render the Squill entirely useless. This over drying in one way or other, happens more frequently than our apothecaries are aware of; and has led me to allow, that some operation on the stomach, some nausea excited by the Squill, is a necessary test of the activity of the portion of it employed." *Cullen, l. c.*

Allium sativum.

Published by W. Phillips, April 1st 1811.

have not however confined themselves to these:[o] when this root was intended as a diuretic, it has most commonly been used in powder, as being in this state less disposed to nauseate the stomach; and to the powder it has been the practice to add neutral salts, as nitre, or crystals of tartar, especially if the patient complained of much thirst; others recommend calomel; and with a view to render the Squills less offensive to the stomach, it has been usual to conjoin an aromatic. The dose of dried Squill is from two to four or six grains, once a day, or half this qnantity twice a day; afterwards to be regulated according to its effects. The dose of the other preparations of this drug, when fresh, should be four times this weight; for this root loses in the process of drying four-fifths of its original weight, and this loss is merely a watery exhalation.[p]

[o] See on this subject Wagner, *obs. clin. sect.* 2. in Hall. *collect. diss.* Ludwig, *Advers Medio-pract. vol. ii. p.* 695. Quarin, *l. c.* Werlhof, *Oper.* Stoll, *Prælect. in morb. chron.* Home, *Clin. Exper. & Hist. p.* 357. *&c.*

[p] Duncan, *New Edinb. Dispens. p.* 322.

ALLIVUM SATIVUM. COMMON CULTIVATED GARLICK.

SYNONYMA. Allium. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 177. *Park. Theat. p.* 513. *Raii Hist. p.* 1125. Allium sativum. *Bauh. Pin. p.* 73. *J. Bauh. Hist. ii. p.* 554. Allium staminibus alterne trifidis, foliis gramineis, capite bulbifero, radicibus in unum bulbum congruentibus. *Hall. Opusc. p* 331. Σκορδον *Græc.*

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 409.

Ess. Gen. Ch. *Cor.* 6-partita, patens. *Spatha* multiflora. *Umbella* congesta. *Caps.* supera.

Sp. Ch. A. caule planifolio bulbifero, bulbo composito, staminibus tricuspidatis.

THE root is perennial, composed of several bulbs, enveloped in a common membrane, and from its base sends off many long white fibres: the stem is simple, and rises about a foot and a half in height: the leaves at the root are numerous, on the stem few; they are all long, flat, grass-like: the flowers of all the plants of this species which we have seen, arise between the small bulbs or rocamboles, which terminate the stem in a cluster: each flower is very small, whitish, and commonly abortive: the calyx is a spatha common to all the florets and bulbs; it is withered, and of a roundish shape: the corolla consists of six oblong petals: the filaments are six, tapering, alternately trifid, shorter than the corolla, and furnished with oblong erect antheræ: the germen is placed above the insertion of the corolla, short, angular, and supports a simple style, terminated by an acute stigma: the capsule is short, broad, trilobed, three-celled, three-valved, and contains roundish seeds. It flowers in July.

This species of Garlick, according to Linnæus, grows spontaneously in Sicily;[a] but as it is much used both for culinary and medicinal purposes, it has been long very generally cultivated in gardens: it shews the same propensity to forming bulbs instead of flowers as the A. Scorodoprasum or Rocambole Garlick, which it also resembles in other respects.

Every part of the plant, but more especially the root, has a pungent acrimonious taste, and a peculiarly offensive strong smell. This odour is extremely penetrating and diffusive, for on the root being taken into the stomach, the alliaceous scent impregnates the

[a] Vide *Spec. Plant.*

whole system, and is discoverable in the various excretions.[b] This volatile matter is, in part at least, an essential oil, which may be obtained in distillation in the ordinary manner, and like the oils of many of the siliquose plants, sinks in water. Applied to the skin, Garlick produces inflammation, and frequently vesicates the part. "On drying, this root loses almost nine parts in fifteen, without suffering any considerable loss of its taste or smell; hence six grains dried are supposed to be equivalent to fifteen grains of the fresh root."[c]

Garlick is generically allied to the onion, from which it seems only to differ in being more powerful in its effects, and in its active matter, being in a more fixed state; by stimulating the stomach they both favour digestion, and as the stimulus is readily diffused over the system, they may therefore be considered as useful condiments with the food of phlegmatic people, or those whose circulation is languid, and secretions interrupted; but with those subject to inflammatory complaints, or where great irritability prevails, these roots, in their acrid state, may prove very hurtful.

The medicinal uses of Garlick are various: it has been long in estimation as an expectorant in pituitous asthmas, and other pulmonary affections, unattended with inflammation.[d] Its utility as a diuretic in dropsies, is also attested by unquestionable authorities;[e]

[b] As in the urine, perspiration, milk; and according to Bennet, the discharge of ulcers becomes imbued with this odour very soon after the Garlick has been taken into the stomach. Vide *Tabidorum theat. exerc.* 29. *p.* 81. On being applied to the feet, the alliaceous taste has been produced in the mouth. Vide *Hall. opusc. bot. p.* 332.

[c] *Lexis, M. M. p.* 33.

[d] Dioscorides mentions its use in inveterate coughs. *M. M. l.* 2. *c.* 182. Celsus employed it mixed with honey in these complaints. *Lib.* 4. *c.* 4. *p.* 199. *ed Krans.* Vide *Mead. Monit. et præc. p.* 56. Rosenstein *Hus-och Rese-apot. p.* 71 & 87. He recommends the Garlick to be boiled in milk, a pint of which is to be taken night and morning.

[e] See the cases related by Forestus, (*Obs. lib.* 9. *obs.* 27.) Bartholinus, (*Hist. Anat. Cent.* 2. *hyst.* 74. Sydenham, (*Oper. p.* 500.)

and its febrifuge power has not only been experienced in preventing the paroxysms of intermittents,[f] but even in subduing the plague.[g]

Another virtue ascribed to Garlick is that of an anthelmintic:[h] it has likewise been found of great advantage in scorbutic cases,[i] and in calculous disorders, acting in these not only as a diuretic, but in several instances manifesting a lithontriptic power.[k] That the juice of alliaceous plants in general has considerable effects upon human calculi, is to be inferred by the experiments of Lobb;[l] and we are abundantly warranted in asserting, that by a decoction of the beards of leeks, taken liberally, and its use persevered in for a length of time, has been found remarkably successful in calculous and gravelly complaints.[m]

[f] Vide Celsus *l. c. p.* 142. De Hæn *Rat. Med. P. ii. p.* 57. *sq.* Rosenstein *Barns sjukd. p.* 317. Bergius. Vide *M. M. p.* 255. where he says, "In febribus quoque autumnalibus repullulantibus præclara identidem præstat. Vidi plures eodem curatos, etiam quos quartana vexaverat. Incipiendum a bulbulo unico mane & vesperi, sed quotidie unus bulbulus superaddendus, usquedum 4 vel 5 bulbulos sumserit æger qualibet vice. Si febris tunc evanuit, diminuenda erit dosis, & sufficit postea sumere unicum, vel etiam binos bulbulos, mane & vesperi, per plures septimanus.

[g] For this purpose it is to be given in such a way as to excite a copious diaphoresis. See the authors cited by Zorn. *Botan. Med. p.* 40. Chenot (*De peste. p.* 108. *sq.* and others.

[h] By Hoffman, Rosenstein, Taube, and others.

[i] See Lauremberg App. plant. l. 1. p. 22. Lind. on scurvy, p. 182. 188. 224.

[k] Vide Hoyer *Ephem. nat. cur. Cent. i. p.* 126. Goetz. *Act. nat. cur. vol.* 2. *p.* 434. Möhring *Commerc. Nor.* 1735. 220.

[l] De Dissol. calc. cap. 10.

[m] A boy, six or seven years old, had for a considerable time suffered by a calculus in the urinary bladder, which had been discovered on sounding; he had recourse to this decoction, which very soon relieved the pain; after which his urine became extremely turbid, and constantly deposited a copious clay-like sediment for several weeks, when it resumed its natural appearance, and the boy has ever since been free from complaint. Another case similar to this has also been reported to us, of the truth of which we have not a doubt.

Veratrum album

Published by W. Phillips April 1st 1816.

The penetrating and diffusive acrimony of Garlick renders its external application useful in many disorders, as a rubifacient, and more especially as applied to the soles of the feet, to cause a revulsion from the head or breast, as was successfully practised and recommended by Sydenham.[n] Garlick has also been variously employed externally to tumors and cutaneous diseases; and in certain cases of deafness a clove or small bulb of this root, wrapt in gauze or muslin, and introduced into the meatus auditorius, has been found an efficacious remedy.[o]

Garlick may be administered in different forms; swallowing the clove entire, after being dipped in oil, is recommended as the most effectual, or where this cannot be done, by cutting it into pieces without bruising it, may be found to answer equally well, producing thereby no uneasiness in the fauces. On being beaten up, and formed into pills, the active parts of this medicine soon evaporate: this we notice on the authority of Dr. Cullen, who thinks that Lewis has fallen into a gross error, in supposing dried Garlick more active than fresh.

The sprup and oxymel of Garlick, which formerly had a place in the British Pharmacopœias, are now expunged.

[n] Especially in the confluent small-pox, about the eighth day. *Epist. de variolis conf.*

[o] Bergius for this purpose recommends the juice of Garlick dropped on cotton. *l. c.*

VERATRUM ALBUM. WHITE HELLEBORE, or, VERATRUM.

SYNONYMA. Helleborus albus. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 440. *Raii Hist. p.* 168. Helleborus Albus, flore subviridi. *Bauh. Pin. p.* 186. Helleborus albus vulgaris. *Park. Theat. p.* 217. Veratrum flore subviridi. *Tournef. Inst. p.* 272. Veratrum spica paniculata, floribus maribus & feminis. *Hall. Stirp. Helv. n.* 1204. Veratrum album. *Jacq. Flor. Aust. v. iv. t.* 335. *Mill. Illustr. ic.*

Class Polygamia. *Ord.* Monoecia. *Lin. Gen. Plant.* 1144.

Ess. Gen. Ch. *Hermaphrod.* *Cal.* 0. *Cor.* 6-petala. *Stam.* 6. *Pist.* 3. *Caps.* 3, polyspermæ.

Masc. *Cal.* 0. *Cor.* 6-petala. *Stam.* 6. *Pist.* rudimentum.

Sp. Ch. V. racemo supradecomposito, corollis erectis.

THE root is perennial, about an inch thick, externally brown, internally white, and beset with many strong fibres: the stalk is thick, strong, round, upright, hairy, and usually rises four feet in height: the leaves are numerous, very large, oval, entire, ribbed, plaited, without footstalks, of a yellowish green colour, and surround the stem at its base: the flowers are both hermaphrodite and male, of a greenish colour, and appear from June to August, in very long branched terminal spikes: the hermaphrodite flowers are without calyces: the corolla consists of six petals, which are oblong, or lance-shaped, veined, persistent, of a pale green colour: the filaments are six, closely surrounding the germens, shorter than the corolla, and terminated by quadrangular antheræ: the germens are three in each flower, erect, oblong, ending in short hairy styles, which are crowned with flat spreading stigmata: the capsules are three, oblong, compressed, erect, two-celled, opening inwardly, and containing many oblong compressed membranous seeds. The male flowers differ from these only in wanting the germens.

This plant is a native of Italy, Switzerland, Austria, and Russia: its first cultivation in this country is ascribed to Gerard, and of course was previous to the year 1596.

The Ελλεβορος λευκος of the Greek writers is by many supposed to be our Helleborus albus; but this opinion, like many others respecting the identity of the ancient nomenclature of plants with that of the modern, seems drawn rather from the similarity of their effects upon the body, than from an agreement in their botanical descrip-

tions. This will evidently appear upon comparing the plant here figured with the description given by Dioscorides:* and yet Geoffroy says, " Apud Dioscoridem hellebori albi descriptio, veratro albo nostro satis apte convenit."[a]

The Ελλεβορος μελας, or famous Anticyran Hellebore,[b] is likewise thought to be the Helleborus niger of Linnæus, an account of which has been given at page 473; but the descriptions of the former by the ancients are so vague that their identity is equally doubtful;[c] the application therefore of what has formerly been said of the Hellebores of the Greeks to those known of us, can only be admitted as a matter of probability.

Hippocrates frequently mentions Hellebore simply, or generically, by which we are told the white is to be understood, as he adds the words black or purging when the other species is meant; and as the purgative powers of Veratrum are known to be weaker than those of helleborus niger, the distinction is so far applicable to the effects now experienced of the roots of our Hellebores.

* " Helleborus albus foiia fert Plantaginis aut Betæ sylvestris similia, sed breviora, nigriora, & dorso rubescentia: caulem palmi altitudine, concavum; qui quidem tunicas quibus convolvitur abdicat cum arescere incipit. Radices subjacent numerosæ, tenues ac fibratæ, ab exiguo & oblongo capitulo, ceu cæpa, exeuntes, eidemque annexæ. Nascitur in montosis & asperis." *Dioscorid. M. M. L. iv. c.* 150. This description of the plant, though imperfect, is the only one given by the ancients.

[a] *Mat. Med. vol. ii. p.* 68.

[b] " Naviget Anticyram."—

Danda est hellebori multo pars maxima avaris:
Necio, an Anticyram ratio illis destinet omnem.

Hor. Sat. Lib. ii. v. 82.

It is said that both the white and black hellebore grew at Anticyra, but the latter was accounted safer, and therefore more commonly employed. *Pausanias, Lib. x. p.* 623.

[c] Though Tournefort says, " Nous connûmes deux Herboristes à Pruse, l'un Emir & l'autre Armenien, qui passoient pour de grands Docteurs. Ils nous fournirent des racines du veritable Ellebore noir des anciens, autant que nous voulumes pour en faire l'extrait. C'est la même espece que celle des Anticyres & des côtes de la Mer Noir." See his account of Mount Olympus. *Voyage du Levant.* But his description of the plant differs widely from that of our Helleborus niger.

It appears from various instances, that not only the roots of white Hellebore, but that every part of the plant is extremely acrid and poisonous, as its leaves and even seeds proved deleterious to different animals.[d] The dried root has no peculiar smell, but a durable nauseous acrid bitterish taste, burning the mouth and fauces; when powdered and applied to issues or ulcers it produces griping and purging; if snuffed up the nose it proves a violent sternutatory. Gesner made an infusion of half an ounce of this root with two ounces of water, of this he took two drams, which produced great heat about the scapulæ, and in the face and head, as well as the tongue and throat, followed with singultus, which continued till vomiting was excited.[e] Bergius also experienced very distressing symptoms merely by tasting this infusion.[f] The root, taken in large doses, discovers such acrimony, and operates upwards and downwards with such violence that blood is usually discharged:[g] it likewise acts very powerfully upon the nervous system, producing great anxiety, tremors, vertigo, syncope, loss of voice, interrupted respiration, sinking of the pulse, convulsions, spasms, cold sweats, &c.[h] Upon opening those who have died by the effects of this poison, the stomach discovered marks of inflammation, with corrosions of its interior coat, and the lungs have been found inflamed, and their vessels much distended with dark blood.[i]

The ancients, though sufficiently acquainted with the virulency of their white Hellebore, were not deterred from employing it

[d] See Pallas, *Russ. Reise, vol. i. p.* 49. Klam's *N. Amer. tom. iii. p.* 48. Gunner, *Fl. Norveg. P. ii. p.* 2. For the poisonous effects of the roots, when applied to wounds of different animals, Vide *Phil. Trans. vol. xlvii. p.* 82.

[e] *Epist. Med. p.* 69. [f] *M. M. p.* 819.

[g] Ettmuller. *Oper. tom. ii. P.* 2. *p.* 435.

[h] Wepfer, *de Cicut. p.* 48. Lorry *de Melanch. ii. p.* 313. Borrich. *Act. Haf. vol. vi. p.* 145. Albert. Jurisprud. *Med. vol. vi. p.* 718. Bresl. Samml. 1724. *P.* 2. *p.* 269. *p.* 537. Act. Berol. *Dec.* 2. *vol.* 6. Misc. Nat. Cur. *Dec.* 2. *Ann.* 2. *p.* 239.

[i] *Act. Berol. cit. Misc. Nat. Cur. cit.*

internally in several diseases, especially those of a chronic and obstinate kind, as mania, melancholia, hydrops, elephantiasis, epilepsia, vitiligo, lepra, rabies canina, &c. they considered it the safer when it excited vomiting, and Hippocrates wished this to be its first effect. To those of weak constitutions, as women, children, old men, and those labouring under pulmonary complaints, its exhibition was deemed unsafe; and even when given to the robust it was thought necessary to moderate its violence by different combinations and preparations; for it was frequently observed to effect a cure not only by its immediate action upon the primæ viæ, but when no sensible evacuation was promoted by its use.[k]

Similar observations have been made of Veratrum by authors of later times: Mayerne[l] gave from two to three grains of an extract of this root with considerable advantage in maniacal cases, where no remarkable evacuation took place; and Con. Gesner,[m] who investigated the qualities of Veratrum by repeated experiments, and whose encomiums on its efficacy seemed for a while to restore it to the ancient character of Hellebore, expressly declares, that he did not give it as an evacuant, but to produce the more gradual effects of those medicines termed alteratives. Gesner's account of

Bergius says, "Ego vix a memet impetrare potero, ut radicis, ita intense venenatæ, usum internum cuiquam suasurus sim, nisi summa adhibita circumspicientia; etenim constat, eam, in satis parca dosi propinatam, sæpe horrenda symptomata excitasse, ut sitim, cardialgiam, tormina, singultum, suffocationes, convulsiones, tremores, inflammationem primarum viarum, lipothymias, sudorem frigidum, immo & mortem." *l. c.*

[k] Hippocr. περι Ελλεβορισμου in Oper. ed. Lind. *tom. i. p.* 610. Et Aphorism. *Sect. iv. Aph.* 13—16.

[l] Prax. Med. *Lib. i. c. 7. p.* 69. *sq.*

[m] He says, "non ad purgandum, sed ad reserandos meatus & crassos humores attenuandum, eosque a centro & interioribus corporis ad superficiam & vias excretionum variarum educendum." Adding, "recreat & roberat, & hilariorem facit, & acuit ingenium: quod in me & aliis sæpissime expertus scribo." Had Gesner lived long enough, he had still more to say on this subject. "Ego, si vixero, in Ellebori historia multa proferam, quæ medici admirentur." *l. c.*

Veratrum was followed by those of several other authors,[n] in which it is said to have been serviceable in various chronic diseases. But the fullest trial which seems to have been lately made of the efficacy of Veratrum is by Greding,[o] who employed it in a great number of cases, (twenty-eight) of the maniacal and melancholic kind; the majority of these, as might be expected, derived no permanent benefit; several however were relieved, and five completely cured by this medicine. It was the bark of the root, collected in the spring, which he gave in powder, beginning with one grain: this dose was gradually increased according to its effects. With some patients one or two grains excited nausea and vomiting, but generally eight grains were required to produce this effect, though in a few instances a scruple, and even more, was given. We may also remark, that he sometimes used the extract prepared after Stoerck's manner.—In almost every case which he relates, the medicine acted more or less upon all the excretions: vomiting and purging were very generally produced, and the matter thrown off the stomach was constantly mixed with bile; a florid redness frequently appeared on the face, and various cutaneous efflorescences upon the body; and, in some pleuretic, symptoms with fever supervened, so as to require bleeding, nor where the more alarming affections of spasms and convulsions unfrequent. Critical evacuations, we are told, were often very evident, many sweated profusely, in some the urine was considerably increased, in others, the saliva and the mucous discharges: also uterine obstructions, of long continuance, were often removed by this drug.

Veratrum has likewise been found useful in epilepsy, and other

[n] *Hannemann, Quercetanus, Screta, Wepfer, Muralto, Linder.*

[o] *Vermischte Med. u. chirurg. Schristen. Altenb.* 1781. to *p.* 30.

Wendt relates a case of mania, brought on by taking pepper and spirits of wine as a remedy for the ague; the disease continued thirty-three weeks, when it was said to have been cured by a decoction of white hellebore; but as copious and repeated bleedings, with other means, were employed, the cure cannot wholly be ascribed to the hellebore. See Agassiz. *Diss. de therapia maniæ. Erl.* 1785. *p.* 37.

Colchicum autumnale

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convulsive complaints,[p] but the diseases in which its efficacy seems least equivocal, are those of the skin,[q] as scabies and different prurient eruptions, herpes, morbus pediculosus, lepra, scrophula, &c. and in many of these it has been successfully employed both internally and externally.

As a powerful stimulant, and irritating medicine, its use has been resorted to only in desperate cases, and then it is first to be tried in very small doses, in a diluted state, and to be gradually increased, according to the effects.

[p] Greding, *l. c.* See also Smyth in *Medical Communications, vol. i. p. 207.*

[q] Its success in these complaints is mentioned both by the ancient and modern writers. Smyth relates three cases. See *l. c.*

The Veratrum nigrum of Lin. or Helleborus albus flore atro-rubente of C. Bauh. is said to produce the same effects as the Veratrum album. See Lorry, *de melanch. tom. ii. p.* 289. & Linnæus, *Amoen. Acad. vol. ix. p.* 261. Helleborus is supposed to be derived *ἀπο τϖ ἕλειν βορα* quod esu perimat. Vératrum dicitur quod mentem vertat, or, à verare i. e. vera loqui. *V. C. Bauh. l. c.*

COLCHICUM AUTUMNALE. COMMON MEADOW SAFFRON.

SYNONYMA. Colchicum. *Pharm. Lond. & Edinb.* Colchicum commune. *Bauh. Pin. p.* 67. *Raii Hist. p.* 1170. *Synop. p.* 373. Colchicum purpureum & Anglicum album. *Gerard. Emac. p.* 157. *Park. Parad. p.* 153. Colchicum Flore folium longe præcedente, petalis ovatis. *Hall. Stirp. Helv. n.* 1255. C. autumnale. *Hudson. Fl. Ang. p.* 136. *Ed.* 1762. *Light. Fl. Scot. p.* 192. *Withering Bot. Arr. p.* 379. *Stoerck Lib. de Colch. autumn.*

Class Hexandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 457.

Ess. Gen. Ch. *Cor.* 6-partita: tubo radicato. *Capsulæ* connexæ inflatæ.

Sp. Ch. C. foliis planis lanceolatis erectis.
α Flore simplici. β Flore pleno.

THE root is perennial, consisting of a solid double succulent bulb, covered with a brown membranous coat: the flower is large, of a purplish colour, and rises immediately from the root upon a long naked tube,[a] like that of the Saffron: the leaves appear in the spring, and are numerous, radical, spear-shaped, one or two much narrower than the others: there is no calyx: the corolla is monopetalous, and divided into six lance-shaped large erect segments, of a pale purple colour: the filaments are six, tapering, white, much shorter than the corolla, and furnished with erect pointed yellow antheræ: the germen is lodged at the root, from which issue three slender styles, reflexed at the top, and terminated by simple pointed stigmata: the capsule is three-lobed, divided into three cells, containing numerous small globular seeds, which do not ripen till the succeeding spring, when the capsule rises above the ground upon a strong peduncle. It is a native of England, affecting meadow grounds of a rich soil,[b] and flowers in September.

The recent root of this plant has been received into the Materia Medica of both Pharmacopœias, on the recommendation of Baron Stoerck, who first thought of converting this acrid poison to the purposes of medicine.[c] Respecting its effects and sensible qualities, authors have given very different reports. Haller informs us, that he found this root perfectly void of taste and acrimony.[d] Krapf likewise says, that he ate the whole bulbs without feeling any inconvenience, except that of an ungrateful bitterish taste;[e] and Kratochvill gave this root with impunity to several in doses of two, three, and even four drams;[f] while Stoerck tells us, that by

[a] Hence it has been called *naked lady*.

[b] It is not so rare a plant as the Saffron.

[c] The external use of this root, and the wearing it inclosed in a bag, suspended about the neck, which was formerly practised for the purpose of preventing and curing pestilential fevers, will hardly be thought an exception to this assertion.

[d] *L. c. n.* 1256.

[e] *Cont. Experim. in Stoerck. p.* 233. [f] Vide *Kratochvill de Colch. p.* 35.

gently rubbing the root against the tip of his tongue, it rendered the part rigid, and almost void of sensation, for several hours.[g] Ehrmann,[h] Marges,[i] Murray,[k] and several other writers, also bear testimony to the great acrimony of Colchicum; so that we can only reconcile these contradictory accounts by supposing these roots to vary much according to their age, the soil in which they grow, and probably still more according to the season of the year in which they are dug up. Baron Stoerck asserts, that on cutting the fresh root into slices, the acrid particles emitted from it irritated the nostrils, fauces, and breast; and that the ends of the fingers with which it had been held, became for a time benumbed;[l] that even a single grain in a crumb of bread, taken internally, produced a burning heat and pain in the stomach and bowels, urgent strangury, tenesmus, colic pains, cephalalgia, hiccup, &c.[m] From this relation, it will not appear surprising that we find several instances recorded in which the Colchicum proved a fatal poison both to man[n] and brute animals.[o]

From various observations on the effects of Colchicum made by Baron Stoerck, and especially upon the infusion of three grains of the fresh root in four ounces of wine, he remarked that its diuretic power was very considerable, and therefore concluded that if its

[g] *Lib. de Colch. p.* 8. 9.

[h] *Diss. de Colch. Basil.* 1772. §. 5. [i] Vide *Journal de Med. tom.* 23. *p.* 32. *sq.*

[k] *App. Med. vol.* 5. *p.* 196.

[l] *L. c. p.* 25. [m] *L. c. p.* 11.

[n] Two boys, after eating this plant, which they found growing in a meadow, died in great agony. *Jo. Agricola Ammonius, Medic. herbar. lib.* 1. *p.* 90. See also *Ludovici Opera, p.* 63. Violent symptoms have been produced by taking three of the flowers. *Garidel, Plantes d'Aix. p.* 123. The seeds likewise have been known to produce similar effects. *Bressl. Samml.* 1723. p. 679.

[o] Deer and oxen have fallen a sacrifice to this poison; and according to Stoerck two drams of the root killed a dog in thirteen hours, and upon opening its abdomen, the stomach and bowels were found to be greatly inflamed, or in a gangrenous state. *L. c. p.* 17.

deleterious acrimony were destroyed, it might prove in this character an efficacious medicine; accordingly he digested an ounce of the recent root sliced in a pound of vinegar for forty-eight hours with a gentle heat; the vinegar being then strained, it proved acrid to the taste, constringed and irritated the fauces, and excited a slight cough; to obviate which, he mixed the vinegar with twice its weight of honey, and gently boiled it down to the consistence of honey, forming an oxymel sufficiently grateful, and which, taken in doses of a dram, promoted a copious discharge of urine, without producing any inconvenience from its acrimony, though it moderately stimulated the fauces, and absterged the mucus. Thus, like the squill, it was found both expectorant and diuretic; and the successful use of this medicine in various hydropic disorders in the hospital at Vienna, equalled the Baron's utmost expectations. He recommends, at first, a dram of the oxymel to be given twice a day in any suitable vehicle, and gradually to increase the dose to an ounce or more in a day. Many other practitioners, who employed the oxymel colchici in these complaints, also experienced its good effects, especially in Germany[p] and France,[q] where it continues to be a favourite medicine: in England, however, the Colchicum has been less successful,[r] and is very generally thought a less efficacious diuretic than the squill, which excells it still more as an expectorant. The London College, conformably to the practice of Stoerck, directs an oxymel colchici, and that of Edinburgh a syrup; the latter however differs from the former only in using sugar instead of honey.

[p] As Zach, Krapf, Plenck, Collin, Ehrmann, and others.

[q] We may here mention Marges, Planchon, Du Monceau, &c. &c.

[r] Vide *Med. Obs. & Inq. vol. 3. præf.* See also *Monro's Essay on Dropsy, p.* 108.

Crocus sativus

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CROCUS SATIVUS. SAFFRON CROCUS.

SYNONYMA. Crocus. *Pharm. Lond. Gerard. Emac. p.* 151. *Raii Hist. p.* 1176. *Synop. p.* 374. Crocus verus sativus autumnalis. *Park. Parad. p.* 167. Crocus sativus. *Bauh. Pin. p.* 65. *Hudson. Flor. Ang. p.* 13. *Withering Bot. Arr. p.* 37. *Relhan. Flor. Cant. p.* 15. *Miller's Figures, t.* 111. Conf. *Douglas. Phil. Trans. vol.* 32. *p.* 441. *Du Hamel, and Fougeroux De Bondaroy. Mem de L'Acad. des Seien. de Paris,* 1728. *p.* 100. *and p.* 92. *f.* 1. 2.

Class Triandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 55.

Ess. Gen. Ch. *Cor.* 6-partita, æqualis. *Stigmata* convoluta.

Sp. Ch. C. spatha univalvi radicali, corollæ tubo longissimo.

α C. autumnalis, *foliis angustioribus margine revolutis.* Miller. Illus.

β C. vernalis, *foliis latioribus margine patulo.* Jacquin. Aust. v. 5. Curt. Mag. 45.

THE root is bulbous, perennial: the flower appears after the leaves, rising very little above the ground upon a slender succulent tube: the leaves rise higher than the flower, are linear, simple, radical, of a rich green colour, with a white line running in the centre, and all at the base inclosed along with the tube of the flower in a membranous sheath: the flower is large, of a bluish purple, or lilac colour: the corolla consists of six petals, which are nearly elliptical, equal, and turned inwards at the edges: the filaments are three, short, tapering, and support long erect yellow antheræ: the germen is roundish, from which issues a slender style, terminated by three long convoluted stigmata, of a deep yellow colour: the capsule is roundish, three-lobed, three-celled,

three-valved, and contains several round seeds. It flowers in September and October.

It is now indubitably ascertained that this plant is a native of England, though unknown to Ray, Miller, and several other subsequent botanists. It has been long cultivated for use in this and in many other countries: but English Saffron is generally preferred here to that which is imported from abroad, and may be distinguished by its parts being larger and broader. All the different plants of this genus are by Linnæus considered only as varieties of the C. sativus. Jacquin,[a] however, makes a distinct species of the spring Crocus: in this he has been followed by Curtis, who has published a figure of the plant in his Botanical Magazine: and Miller, who describes four species of this family, thinks all of them "must be allowed to be specifically different, since they do not vary to each other."[b]

The stigmata of the Crocus here figured, which constitute the officinal Saffron, are easily to be distinguished from those of the other varieties, and in the neighbourhood of Saffron-Walden, and in some parts of Cambridgeshire, where the plant is chiefly cultivated, are prepared for use in the following manner. In autumn, when the flowers appear, they are gathered every morning, and are spread upon a table; the stigmata along with a portion of the style, are then picked from the other part of the flowers, which are thrown away as useless. The stigmata being thus collected in sufficient quantity are then dried, which is effected by means of portable kilns, of a peculiar construction, over which a hair cloth is stretched; and upon this are placed a few sheets of white paper, on which the stigmata are strewed, about two or three inches thick, and then covered with several sheets of paper, over which is laid a coarse blanket, five or six times folded, or a canvas bag filled with straw; and when the fire has heated the kiln, a board, on which a weight is put, is placed upon the blanket in order to press the Saffron into a cake. For the first hour a pretty strong fire is

[a] Vide *l. c.* [b] See *Dict.*

employed; the Saffron is then found to be formed into a cake, which, after being turned, is subjected for another hour to the same degree of heat: it is then turned a second time, and a more gentle heat is applied for about twenty-four hours, or till the cake becomes dry, during which time it is turned every half hour.[c]

Saffron, thus prepared, has a powerful penetrating diffusive smell, and a warm pungent bitterish taste. "It gives out the whole of its virtues and colour to rectified spirit, proof spirit, wine, vinegar, and water: about three parts in four of the Saffron are taken up by each of these menstrua; and the matter which remains undissolved is inodorous, insipid, and of a pale clay colour."[d] The acetous, and even vinous tinctures of Saffron, on long keeping, lose a little of their colour and strength, but those made with rectified spirit remain in perfection for years.[e] "In distillation it impregnates water strongly with its flavour: if the quantity of Saffron is large, a small portion of a fragrant and very pungent essential oil may be collected, amounting, as is said by Vogel, to about a dram and a half from sixteen ounces. Rectified spirit elevates also a considerable share of its flavour, but leaves much the greater part concentrated in the extract."[f]

Saffron is evidently the Κροκος of the Greeks, Crocus of the Latins, and Zaffaran, or Zahafaran, of the Arabians. It was held in much estimation by the Hebrews, who called it Carcom, and was greatly celebrated in ancient times both by physicians and poets. As a medicine, Saffron was considered to be very powerful. Schroder asserts, that if taken to the quantity of two or three drams, it proves fatal; and by several authors we are informed, that in large doses it produced cephalalgia, intoxication, and mania.[h] We are

[c] For a full account of the cultivation and management of Saffron, see *Douglas in Phil. Trans. vol.* 35. *p.* 566. And *Miller's Dict.*

[d] *Lewis, M. M. p.* 258.

[e] *Ibid.* [f] *Ibid.*

[h] See especially *Zacut. Lusit. apud Fricc. de venen. p.* 394.

also assured, that it penetrates every part of the body, tinging the solids and excretions with a yellow colour;[i] and that even the odour or effluvia of this drug, have been known to produce delcterious effects.[k] It appears, however, from the experiments of Dr. Alexander,[l] that Saffron possesses but very little active power, and may be taken in considerable quantity, without producing any remarkable effect: and it was lately given in the Edinburgh Infirmary, by Dr. Henry Cullen, even to the extent of half an ounce a-day, in several hysterical cases, without any sensible effect whatever.*

Writers on the Materia Medica have very generally considered Saffron as a most exhilarating cordial; and for this purpose Boerhaave preferred the extract, inspissated only to the consistence of oil: but the observations of modern physicians do not furnish us with one instance in which this drug had any remarkable effect in raising the spirits: on the contrary Bergius informs us, that a lady always experienced great despondency by taking this medicine. It has been supposed of considerable efficacy as an emmenagogue; Riverius mentions a singular case of its powerful action in this way.[m] Dr. Cullen also informs us, that he has found it to succeed in this character in one or two instances; but that in many others, though repeatedly employed in large doses, no good effect was produced.[n] Another quality for which Saffron has been esteemed, is that of an antiseptic; yet though, (according to the experiments of Sir John Pringle,[o]) it manifested the power of retarding the putrefactive process of animal matter, we have no proof of its efficacy in this way on the living body, infected by a

[i] Hertodt, *Crocologia. p.* 279.

[k] Borellus. *Hist. et Obs. cent.* 4. *Obs.* 35. *p.* 303. Tralles, *de Opio. sect.* 1. *p.* 114. *Zacut. Lusit. l. c.*

[l] *Experimental Essays*, p. 88.

* See *Duncan's Edinburgh New Dispensatory*, p. 178.

[m] *Opera ed. Horst. p.* 136. [n] *Cullen. M. M. vol. ii. p.* 313.

[o] *Diseases of the Army, App. p.* 20.

Aloe perfoliata Linnaeus

putrid disease. Saffron has also been employed as a diaphoretic, and for the purpose of throwing out variolous pustles, and other exanthemata; but this practice seems to have originated from a mistaken notion of the action of Saffron, as well as from a fallacious pathology, which is now utterly exploded. In short, though the sensible qualities of this medicine are pretty considerable, it appears to us to possess no other power than simply that of an aromatic: and Dr. Cullen declares, that he "has not been more puzzled upon any occasion, than in ascertaining the medicinal qualities of this substance,"[P] so that the words of a very classical writer may still be applied to it, though with a contrary view: "Nec poteris croci dotes numerare, nec usus."

At present very little confidence is placed in this medicine, though it enters several officinal compositions. The Edinburgh College directs a tinctura croci, but that of London only retains a syrup of this drug.

[P] *L. c.*

ALOE PERFOLIATA SOCOTORINA. SOCOTORINE ALOE.

SYNONYMA. Aloë socotorina. *Pharm. Lond. & Edinb.* Aloe Americana ananæ floribusque suave rubentibus. *Pluk. Almag. t.* 240. *f.* 4. Aloe (vera) foliis longissimis et angustissimis, marginibus spinosis, floribus spicatis. *Mill. Dict.*

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 430.

Ess. Gen. Ch. *Cor.* erecta, ore patulo, fundo nectarifero. *Filam.* receptaculo inserta.

Sp. Ch. A. foliis caulinis dentatis amplexicaulibus vaginantibus, floribus corymbosis cernuis pedunculatis subcylindricis.

β *A. S.* foliis longissimis et angustissimis, marginibus spinosis, floribus spicatis.

THE root is perennial, strong, fibrous: the flower-stems rise three or four feet in height, and are smooth, erect, of a glaucous green colour, and towards the top beset with ovate bracteal scales: the leaves are numerous, and proceed from the upper part of the root: they are narrow, tapering, thick, or fleshy, succulent, smooth, glaucous, and beset at the edges with spiny teeth: the flowers are produced in terminal spikes, and of a purple or reddish colour: there is no calyx: the corolla is monopetalous, tubular, nectariferous, cut into six narrow leaves which separate at the mouth: the filaments are six, tapering, yellowish, inserted into the receptacle, and furnished with oblong orange-coloured antheræ: the germen is oblong, supporting a simple slender style, of the length of the filaments, and terminated by an obtuse stigma: the capsule is oblong and divided into three cells, with as many valves, and contains many angular seeds.

It is a native of Africa, and flowers most part of the year.

Not only the socotorine aloes, which is the inspissated juice of the plant here represented, but also the hepatic or Barbadoes aloes is directed for officinal use in our pharmacopœias. This however being obtained from another variety of the same species, viz. the aloe *(π vera)* foliis spinosis confertis dentatis vaginantibus planis maculatis L. it has not been thought necessary to give a separate figure of it here. Besides, it appears probable from the observations of Professor Murray, that different species as well as varieties of aloe would furnish the various kinds of this drug, and that Linnæus by referring these sorts to those plants, the recent juice of which seemed respectively to correspond the nearest to them in taste, might easily be misled; for Murray upon tasting the fresh juice of many different species of aloe, sometimes found it bitter, and at other times totally devoid of bitterness.[a]

[a] See *Commentatio de succi aloës amari initiis* in *Murr. Opusc. tom.* 2. *p.* 488. This author found the bitterest species to be the following: 1. Aloe elongata, floribus spicatis tubuloso-triquetris subringentibus oblique dependentibus, foliis aggregatis dentatospinosis. It seems to be the variety π of the spec. plant. and is

A tract of mountains about fifty miles from the Cape of Good Hope is wholly covered with the aloes plants, which renders the planting of them there unnecessary; but in Jamaica and Barbadoes they are now carefully cultivated; to the former of these Islands, they were first brought from Bermuda, and gradually propagated themselves. They require two or three years standing before they yield their juice in perfection; to procure which, according to Dr. Browne, "The labourers go into the field with tubs and knives, and cut off the largest and most succulent leaves close to the stalk; these are immediately put into the tubs, and disposed one by the side of another in an upright position, that all the loose liquor may dribble out at the wound. When this is thought to be almost wholly discharged, the leaves are taken out one by one, passed through the hand to clear off any part of the juice that may yet adhere, or stick in the less open veins; and the liquor put in shallow flat-bottomed vessels, and dried gradually in the sun, until it acquires a proper consistence. What is obtained in this manner is generally called *socotorine aloes,* and is the clearest and most transparent, as well as the highest in esteem and value."[b] The method of procuring the common aloes he states to be nearly the same with that mentioned by Mr. Hughes,[c] and lately by Mr. Millington:[d] after a sufficient quantity of juice is drained from the leaves, to make it an object for the boiling house, the last-mentioned gentleman informs us, "three boilers, either of

probably the aloe mentioned by Hughes and Browne. A figure of it is given in the Gottingen Trans. for the year 1788.

2. Aloe spicata *Thunb.* (see *supp. plant.*) this is said to afford the best hepatic aloes. 3. Aloe linguæformis (see *syst. veg. ed.* 14.) This plant in the interior parts of the Cape, is selected by some as producing the best and purest aloes. *Thunb. de Med. African. p.* 7. But the greatest quantity of aloes exported from the Cape of Good Hope, is prepared from another species, not defined by Thunberg, though not uncommon in our botanic gardens V. *Physiogr. Sälsk. Handl. P.* 1. *p.* 112. and Sparrman *Resa til Goda Hopps-udden. p.* 742, it is probably the *A.* spicata *of Thunb.*

[b] See *Broœne's Jamaica, p.* 198. [c] See his History of Barbadoes, p. 159.

[d] See *London Med. Journal, V.* 8. *p.* 422.

iron or copper, are placed to one fire, though some have but two, and the small planters only one. The boilers are filled with juice, and as it ripens or becomes more inspissated, by a constant but regular fire, it is ladled forward from boiler to boiler, and fresh juice is added to that farthest from the fire, till the juice in that nearest to the fire (by much the smallest of the three, and commonly called by the name of tatch, as in the manufactory of sugar) becomes of a proper consistency to be skipped or ladled out into gourds, or other small vessels, used for its final reception. The proper time to skip or ladle it out of the tatch, is when it is arrived at what is termed a resin height, or when it cuts freely, or in thin flakes from the edges of a small wooden slice, that is dipped from time to time into the tatch for that purpose. A little lime-water is used by some aloe boilers during the process, when the ebullition is too great." He adds, " as to the sun-dried aloes which is most approved for medicinal purposes, very little is made in Barbadoes. The process is however very simple, though extremely tedious. The raw juice is either put into bladders, left quite open at the top, and suspended in the sun, or in broad shallow trays of wood, pewter, or tin, exposed also to the sun every dry day, until all the fluid parts are exhaled, and a perfect resin formed, which is then packed up for use, or for exportation."*

These accounts of procuring the aloes differ considerably from that given by Dr. Wright, who says " Hepatic aloes is obtained in the following manner. The plant is pulled up by the roots and carefully cleansed from earth or other impurities. It is then sliced and cut in pieces into small hand-baskets or nets. These nets or baskets are put into large iron boilers with water, and boiled for ten minuets, when they are taken out, and fresh parcels supplied till the liquor is strong and black. At this period the liquor is thrown through a strainer into a deep vat, narrow at bottom, to cool, and to deposit its fæculent parts. Next day the clear liquor is drawn off by a cock, and again committed to the large iron

* Millington, l. c.

vessel. At first it is boiled briskly, but towards the end the evaporation is slow, and requires constantly stirring to prevent burning. When it becomes of the consistence of honey, it is poured into gourds or calabashes for sale. The socotorine aloes may be prepared as above."[f]

The aloe socotorina or socotorine aloes is so named, from being formerly [g] brought from the Island Socotria or Zocotria at the mouth of the Red sea: it comes wrapt in skins and is of a bright surface, and in some degree pellucid; in the lump of a yellowish red colour with a purplish cast; when reduced into powder of a golden colour. It is hard and friable in the winter, somewhat pliable in the summer, and softens between the fingers. Its bitter taste is accompanied with an aromatic flavour, but not sufficient to prevent its being disagreeable: the smell is not very unpleasant, and somewhat resembles that of myrrh. The aloe hepatica E. P. and Barbadensis L. P. the Hepatic, Barbadoes, or common aloes, is chiefly brought from Barbadoes; the best sort in large gourd shells, an inferior kind in pots, and a still worse in casks; is darker coloured than the foregoing, and not so clear or bright. It is generally drier and more compact, though sometimes, especially the cask sort, quite soft and clammy. Its smell is much stronger and more disagreeable: the taste intensely bitter and nauseous, with little or nothing of the aromatic flavour of the socotorine.

Another kind of aloes obtained from the aloe guineensis caballina vulgari similis sed tota maculata,* is also kept in the shops, and called aloe caballina, or horse aloes. This is easily distinguished from both the foregoing, by its strong rank smell: in other respects it agrees pretty much with the hepatic, and is now not unfrequently sold in its place. Sometimes it is prepared

[f] V. Dr. Wright's *account of the medicinal plants growing in Jamaica, in Lond. Med. Jour. Vol.* 8. *p.* 219.

[g] It is now said to be imported from the Cape by the Dutch East India Company.

* *Commel. Prael. bot. p.* 4.

so pure and bright as scarcely to be distinguishable by the eye, even from the socotorine, but its offensive smell readily betrays it; and if this also should be dissipated by art, its wanting the aromatic flavour of the finer aloes will be a sufficient criterion. This aloe is not admitted into the Materia Medica, and is employed chiefly by farriers.

All the kinds of aloes consist of a resin united to a gummy matter, and dissolve in pure spirit, proof spirit, and proof spirit diluted with half its weight of water; the impurities only being left. They dissolve also by the assistance of heat in water alone; but as the liquor grows cold, the resinous parts subside.

The hepatic aloes is found to contain more resin and less gum than the socotorine, and this than the caballine. The resins of all the sorts, purified by spirit of wine, have little smell: that obtained from the socotorine has scarce any preceptible taste; that of the hepatic, a slight bitterish relish; and the resin of the caballine, a little more of the aloetic flavour. The gummy extracts of all the sorts are less disagreeable that the crude aloes: the extract of socotorine aloes has very little smell, and is in taste not unpleasant: that of the hepatic has a somewhat stronger smell, but is rather more agreeable in taste than the extract of the socotorine: the gum of the caballine retains a considerable share of the peculiar rank smell of this sort of aloes, but its taste is not much more unpleasant than that of the extracts made from the two other sorts.[h]

Aloes is neither noticed by Hippocrates nor Theophrastus, but Dioscorides mentions two kinds; and Avicenna tells us, that of the different kinds the socotorine is the best. Celsus, however, who frequently employed aloes, does not mention any peculiar sort.

Aloes is a well known purgative; a property which it possesses not only when taken internally, but also by external application.[i]

[h] See *Edinburgh New Dispensatory.*

[i] V. *Monro's Works, p.* 306. *and Mem. de la Soc. R. de Medec. à Paris, Vol.* 2. *p.* 162.

This cathartic quality of aloes does not, like most of the others of this class, reside in the resinous part of the drug but in the gum, for the pure resin has little or no purgative power. Boerhaave declares aloes to be an effectual and safe cathartic, but though we may have little to fear from its hypercathartic effects, yet in large doses it often produces much heat and irritation, particularly about the rectum, from which it sometimes occasions a bloody discharge: therefore, to those who are subject to piles, or of an hemorrhagic diathesis, or even in a state of pregnancy, its exhibition has been productive of considerable mischief: but on the contrary, by those of a phlegmatic constitution or suffering by uterine obstructions, and in some cases of dyspepsy, palsy, gout, and worms, aloes may be employed as a laxative with peculiar advantage. Its purgative effects are not always in proportion to the quantity taken, and as its principal use is rather to obviate costiveness than to operate strongly, this ought to be no objection to its use. Respecting the choice of the different kinds of aloes, it may be observed that the socotorine, as already mentioned, contains more gummy matter than the hepatic, and hence is found to purge with more certainty and greater irritation; therefore is most proper where a stimulus is required, or for promoting the uterine discharge: while the hepatic is better calculated for the purpose of a common purgative; and also by containing more resin answers better for external application considered as a vulnerary.

The dose of aloes is from half a scruple to half a dram, but it is seldom given alone. Several preparations of it are directed in the pharmacopœias, as pilulæ ex aloe, pilulæ ex aloe cum myrrha, extractum colocynthidum compositum. *Pharm. Lond.* pilulæ aloeticæ, pilulæ communes, v. Rufi, pilulæ ex colocynthide cum aloe, pilulæ stomachicæ, *Pharm Ed.* tinctura aloes, tinctura aloes composita, vinum aloes *P. L.* elixir aloes v. proprietatis, elixir aloes sive proprietatis vitriolicum, vinum aloeticum. *P. E.* the pulvis aloeticus or hiera picra, and other powders.

CONVALLARIA POLYGONATUM. COMMON SOLOMON's SEAL.

SYNONYMA. Convallaria. *Pharm. Edinb.* Polygonatum latifolium flore majore odoro. *Bauh. Pin.* 303. Polygonatum floribus ex singularibus pediculis. *J. Bauh.* iii. *p.* 529. Polygonatum majus flore majore. *Park. Theat. p.* 696. Sweet-smelling Solomon's Seal. *Gerard. Emac.* 904. *Raii Synopsis, p.* 263. *Spec.* 2. *Raii Histor. p.* 665. *Withering. Bot. Arrang. p.* 354. *Flor. Dan. Icon.* 337.

ϐ Polygonatum Hellebori albi folio, caule purpurascente. *Raii Synop.* 263.

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 425.

Ess. Gen. Ch. Cor. sexfida. *Bacca* maculosa 3-locularis.

Sp. Ch. C. foliis alternis amplexicaulibus, caule ancipiti, pedunculis axillaribus subunifloris.

THE root is perennial, horizontal, white, fibrous, beset with knobs, and said [a] to be marked with circular depressions, resembling the impressions of a seal; hence the name Solomon's Seal. The stalk is inclined, angular, smooth, and rises about a foot in height: the leaves are oval, pointed, ribbed, smooth, above of a deep green colour, underneath glaucous, and at the base embrace the stem: the flowers are long, bell-shaped, white, or tinged with green; divided at the extremity into six short segments, and hang from the same side of the stalk upon slender peduncles: the filaments are six, tapering, short, and inserted in the corolla: the antheræ are oblong and erect: the style is filiform, longer than the stamina, and crowned with a blunt triangular stigma: the germen is round, and when ripe becomes a black berry, divided

[a] These depressions are more peculiarly characteristic of the Convallaria multiflora.

Convallaria Polygonatum.

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into three cells, each containing a single round seed. It grows in the rocky and woody parts of England, and flowers in May and June.

The root, which is the medicinal part of Solomon's Seal, is very generally, by writers on the Materia Medica, referred to the Convallaria multiflora of Linnæus, or the Polygonatum latifolium vulgare of C. Bauhin. It is of a mucilaginous [b] quality, and has long been commonly employed as a discutient poultice to various kinds of tumours, but more particularly to bruises, accompanied with extravasation of blood in the cellular membrane: [c] it is also recommended as a cosmetic; and in Galen's time was used by women to remove pimples and freckles of the skin. Of its astringent effects, when taken internally, there can be no well grounded expectation. The berries, flowers, and leaves, are extremely acrid, and are said to be of a poisonous quality. [d]

[b] As a proof that these roots contain a considerable proportion of farinaceous matter, Bergius says, "Panem e radice recente, addita farina frumenti, annonæ caritate coxerunt rustici nostrates, qui fuscus fuit, & subglutinoso sapore." M. M. 271.

[c] "Cataplasma e radice familiare remedium est in sugillationibus, & in omni contusione, sanguinem grumosum efficaciter discutiens." Rutty M. M. 403.

[d] Vide Haller Stirp. Helv. No. 1243. Geoff. M. M.

ORD. XLVII. ENSATÆ.

(From *ensis*, a Sword.)

Plants with leaves shaped like a two-edged sword, broad and embracing the stem at the base, and gradually tapering to a point at the apex.

IRIS FLORENTINA. FLORENTINE ORRIS, or IRIS.

SYNONYMA. Iris florentina. *Pharm. Lond. & Edinb. Gerard. Emac.* p. 52. Iris alba florentina. *Bauh. Pin.* p. 31. *Park. Perad.* p. 180. Iris flore albo. *J. Bauh. Hist.* ii. 719. *Raii Hist.* p. 1180. *Spec.* 2. Iris barbata foliis ensiformibus glabris brevioribus, scapo subbifloro. *Thunb. Diss. de Iride.* n. 5. Ἶρις Ἰλλυρική, *Dioscor. et Græc.*

Class Triandria. *Ord.* Monogynia. *L. Gen. Plant.* 59.

Ess. Gen. Ch. *Cor.* 6-petala, inæqualis, petalis alternis geniculato-patentibus. *Stigmata* petaliformia, cucullato-bilabiata. *Thunb. Diss. de Iride.*

Cor. 6-partita: *Petalis* alternis reflexis. *Stigmata* petaliformia. *Lin.*

Sp. Ch. I. corollis barbatis, caule foliis altiore subbifloro, floribus sessilibus.

Iris florentina

THE root is perennial, tuberous, ponderous, somewhat compressed, branched, fibrous, externally brown, internally of a yellowish white colour: the leaves are sword-shaped, radical, inserted in each other, pointed, shorter than the stem, and of a dull green colour: the stem is round, smooth, jointed, and about a foot in height: the flowers are large, upright, of a white colour, and often have a bluish tinge: the calyx is a spatha of two valves: the corolla divides into six segments or petals, of these, three stand erect, the other three, which are of an irregular oval shape, turn back, and at the base are painted with brown lines, and bearded with yellow hairs; the filaments are three, and crowned with long yellow antheræ; the style is short and simple; the stigma separates into three expanded segments, resembling petals, which arch over the stamina; the germen is long, of an obtusely triangular shape, and placed below the corolla; the capsule has three cavities, which contain numerous flat brown seeds.

This Iris is a native of Italy, and flowers in June: it was cultivated in England by Gerard in 1596, and is now constantly propagated by the florists; but the roots of the Orris produced in this country have neither the odour, nor the other qualities, of those of warmer climates, so that for medicinal use they are commonly imported from Leghorn.

The root, in its recent state, is extremely acrid, and when chewed excites a pungent heat in the mouth, which continues several hours: on being dried, this acrimony is almost wholly dissipated, the taste slightly bitter, and the smell agreeable, and approaching to that of violets. No essential oil has been hitherto obtained from this root, but spirituous tinctures of it contain more of its virtues than watery infusions. The fresh root is a powerful cathartic, and for this purpose its juice has been employed in the dose of a dram and upwards in dropsies. It is now chiefly used in its dried state, and ranked as a pectoral, or expectorant, and hence has a place in the Trochisci amyli of the London Pharm. We have however no evidence of its expectorant powers, and

therefore must consider it as valuable only for the pleasantness of the perfume, and the flavour which it communicates.[a]

[a] "What this might do in its recent and acrid state, I cannot determine; but in the dried state, in which we commonly have it in our shops, we are persuaded of its being a very insignificant expectorant." Cullen M. M. v. 2. p. 459.

IRIS PSEUDACORUS. YELLOW WATER FLAG.

SYNONYMA. Iris Palustris. *Pharm. Edin.* Iris palustris lutea. *Gerard. Emac.* 50. Acorus adulterinus. *Bauh. Pin.* p. 74. Acorus palustris, &c. *Park. Theat.* p. 1219. Yellow Water Flower-de-luce. *Raii Hist.* p. 1185. *Synop.* 374. Iris caule inflexo, foliis ensiformibus; petalis erectis minimis reflexis imberbibus. *Hal. Stirp. Helv.* n. 1260. Iris Pseud-Acorus. *Lightf. Fl. Scot.* p. 86. *Withering Bot. Arrang.* p. 39. *Curt. Fl. Lond.*

Class Triandria. *Ord.* Monogynia. *L. Gen. Plant.* 59.

Ess. Gen. Ch. *Cor.* 6-petala, inæqualis; petalis geniculato-patentibus. *Stigmata* petaliformia, cucullato-bilabiata. *Thunb. Diss. de Iride.*

Sp. Ch. I. imberbis, foliis ensiformibus, petalis alternis, stigmate minoribus. *Thunb.* l. c.

THE root is perennial, thicker than the thumb, of an irregular shape, horizontal, on the outside blackish, covered with rigid fibres, and puts forth many long whitish perpendicular slender roots; within it is spongy, and of a yellowish red colour; the leaves which grow from the root are upright, broad, sword-shaped, and at the bottom riding, or closely embracing, each other; those on the stalk are short, alternate, and sheathe the joints of the stem:

Iris Pseudacorus.

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the stalk is upright, round, smooth, alternately inclined from joint to joint: the flowers are large, showy, of a yellow colour, and stand upon short branches, which proceed from the joints of the stem: the corolla divides into six segments or petals, of these, the three inner ones are small and erect, the three outermost are large, of a roundish oval shape, turning back, and painted near the base with reddish lines: the calyx is a sheath, or spatha, of two, three, or four valves, according to the number of the flowers: the filaments are flat and tapering; the antheræ oblong, yellowish at the edges, purplish, and bent down by the stigmata: the germen is triangular, and placed below the corolla; the style is short and slender; the stigma divides into three petalous expansions of a yellow colour, these are oblong, bent outwards, and irregularly serrated at the extremity: the capsule is triangular, and divided into three cells, which contain numerous flat seeds of a yellow colour.

This plant is common in marshes, and on the banks of rivers, and is rendered very conspicuous by its large yellow flowers, which appear in the beginning of July. It formerly had a place in the London Pharm. under the name of Gladeolus luteus. The root is without smell, but has an acrid stiptic taste, and its juice on being snuffed up the nostrils, produces a burning heat in the nose and mouth, accompanied with a copious discharge from these organs: hence it is recommended both as an errhine and sialagogue.[a] This root is such a powerful astringent, that it has been used instead of galls in the making of ink,[b] and also for the purpose of dying black;[c] and from this quality it has been successfully employed as a medicine for the cure of diarrhæas:[d] When given with this intention, the root is to be well dried; for the fresh root and

[a] Vide Armstrong on the diseases of children, p. 146. Cullen M. M. v. ii. p. 439.

[b] Phil. Trans. No. 117. p. 397.

[c] Vide Pennant's Tour in Scotland, 1772. p. 214. Lightfoot's Flor. Scot. v. 2. p. 86.

[d] Blair's Observations, &c. p. 78.

its juice are strongly cathartic, insomuch that 80 drops of the latter produced repeated evacuations, after jalap, gamboge, &c. had failed, and by continuing its use in an increased dose, it cured an inveterate dropsy.[e] Hence Bergius says, "*Virtus. recent.* hydragoga, purgans. *siccat.* adstringens." The expressed juice is likewise said to be an useful application to serpiginous eruptions and scrophulous tumours.[f]

[e] —— "By this time the strongest cathartics, such as Jalap, Gamboge, Mercury, &c. were quite ineffectual: whereupon Dr. Rutherford ordered 80 drops of the succus radicis, Iridis palustris, to be given every hour or two in a little syrup of buckthorn, which had very immediate effects, making him pass several Scots pints of water by stool that very night." Medical Essays, vol. 5. p. 94.——We may here remark, that this juice is very uncertain in its operation: that which is expressed from the old roots is the most active.

[f] Murray Ap. Med. vol. 5. p. 277. Lewis Mat. Med. 359.

Orchis mascula

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ORD. XLVIII. ORCHIDEÆ.

Plants of the Orchis kind.

ORCHIS MASCULA. MALE ORCHIS.

SYNONYMA. Satyrion. *Pharm. Edinb.* Orchis morio mas foliis maculatis. *Bauh. Pin. p.* 81. *Park. Theat. p.* 1364. *Raii Hist. p.* 1214. *Synop. p.* 376. Cynosorchis morio mas. *Gerard. Emac. p.* 208. Orchis radicibus subrotundis; petalis lateralibus reflexis; labello trifido; segmento medio longiori, bifido. *Hal. Stirp. Helv. n.* 1286. *tab.* 33. Orchis mascula. *Hudson. Flor. Ang. p.* 333. *Lightfoot Flor. Scot. p.* 515. *Flor. Dan. t.* 457. *Curt. Flor. Lond. t.* 121.

Class Gynandria. *Ord.* Diandria. *Lin. Gen. Plant.* 1009.

Ess. Gen. Ch. *Nectarium* corniforme pone florem.

Sp. Ch. O. bulbis indivisis, nectarii labio quadrilobo crenulato: cornu obtuso, petalis dorsalibus reflexis.

THE root is perennial, consisting of two roundish bulbs, from the upper part of which several small fibres are produced: the stalk is upright, round, smooth, solid, simple, purplish towards the top, and rises about a foot in height: the leaves are radical, long, pointed with a sharp prominent midrib, and commonly marked with dark coloured spots: the flowers are purplish, and terminate

the stem in a long regular spike: the bracteæ are membranous, purple, lance-shaped, and generally twisted at their points: the corolla is composed of five petals, two of which are upright, of an oval pointed shape, and their tips bent inwards: the other three are placed outwardly, and approach so as to form a galea, or helmet: the lip is large, with three lobes, of which that in the middle is the longest; they are notched, and spotted towards the base, which is white; the nectarium is lengthened out behind into a tubular part, resembling a little horn: the filaments are two, short, inserted in the germen, and furnished with oval antheræ, which are incased in the limb of the nectary: the germen is oblong and twisted: the style is short, with a compressed stigma: the capsule is oblong, and contains numerous small seeds. It is common in meadows, and flowers in April and May.

This plant has a place in the Materia Medica of the Edinburgh Pharmacopœia only on account of its roots, which abound with a glutinous slimy juice, of a sweetish taste; to the smell they are faint, and somewhat unpleasant.

This mucilaginous or gelatinous quality of the Orchis root has recommended it as a demulcent, and it has been generally employed with the same intentions and in the same complaints as the root of althæa and gum arabic, both of which we have already noticed.

Salep, which is imported here from the East, and formerly held in great estimation, is now well known to be a preparation of the root of Orchis ‖ which was first suggested by Mr. J. Miller,† and different methods of preparing it have been since proposed and practised: of these the latest and most approved is that by Mr. Mault, of Rochdale,[a] which we shall transcribe from the words of Dr. Percival,[b] who follows Mr. Mault in recommending the

‖ Orchis mascula, though the chief, is not the only species from which the Salep is prepared.

† Joseph Miller (*Botan. Offic.* 1722. *p.* 385) to which we may add the names of *Seba* and *Heister*. This was first confirmed by *Buxbaum* (*Plant. min. cogn. Cent.* 3. *p.* 5.) See *Murray, Ap. Med. vol.* 5. *p.* 280.

cultivation of a plant in Britain which promises to afford so useful and wholesome a food as the Salep.

Dr. Percival says, " Mr. Mault has lately favoured the public with a new manner of curing the Orchis root, and as I have seen many specimens of his Salep, at least equal if not superior to any brought from the Levant, I can recommend the following, which is his process, from my own knowledge of its success. The new root is to be washed in water, and the fine brown skin which covers it is to be separated by means of a small brush, or by dipping the root in hot water, and rubbing it with a coarse linen cloth. When a sufficient number of roots have been thus cleansed, they are to be spread on a tin plate, and placed in an oven heated to the usual degree, where they are to remain six or ten minutes, in which time they will have lost their milky whiteness, and acquired a transparency like horn, without any diminution of bulk. Being arrived at this state, they are to be removed, in order to dry and harden in the air, which will require several days to effect; or by using a very gentle heat they may be finished in a few hours."[c]

Salep, considered as an article of diet, is accounted extremely nutritious, as containing a great quantity of farinaceous matter in a small bulk, and hence it has been thought fit to constitute a part of the provisions of every ship's company to prevent a famine at sea. For it is observed by Dr. Percival, that this powder and the dried gelatinous part of flesh, or portable soup, dissolved in boiling water, form a rich thick jelly, capable of supporting life for a considerable length of time. An ounce of each of these

[a] See *Phil. Trans. vol.* 59. *p.* 2.

[b] Percival's Essays Med. & Exper. vol. ii. p. 39.

[c] The properest time for gathering the roots is when the seed is formed, and the stalk is ready to fall, because the new bulb, of which the Salep is made, is then arrived to its full maturity, and may be distinguished from the old one by a white bud rising from the top of it, which is the germ of the orchis of the succeeding year. *Percival, l. c.*

articles, with two quarts of boiling water, will be sufficient subsistence for one man a day.[d] Dr. Percival not only recommends the use of Salep as other authors have done in diarrhœa, dysentery, dysury, and calculous complaints; but he thinks "in the symtomatic fever, which arises from the absorption of pus, from ulcers in the lungs, from wounds, or from amputations, Salep used plentifully is an admirable demulcent, and well adapted to resist that dissolution of the crasis of the blood which is so evident in these cases."

The supposed aphrodisiac qualities of this root, which have been noticed ever since the time of Dioscorides, seem to be founded on the fanciful doctrine of signatures.[e]

[d] Percival l. c. See also Lind's Appendix to his Essay on the Diseases of Hot Climates.

"Salep ex orchide morione in Suecia paratum citius solvi se passum est, quam Persicum, et tam tenacem mucilaginem exhibuit octo ejus grana in aquæ fervidæ unica una h. e. radicem in 60-plo aquæ solvendo, ut per pannum linteum non perfecte transigi posset, sed affundi insuper deberet aquæ fervidæ uncia dimidia, quo auxilio mucilago ista densitate æquavit alteram ex Salep Persico uncia una aquæ elicitam: remansit vero residui ex isto Suecico Salep granum $1\frac{1}{2}$ et Persico gr. i. Murray l. c. See *Vet. Acad. Handl.* 1764. *p.* 245. *sq.*

[e] Orchis, i. e. ὄρχις, Testiculus, habet radices instar testiculorum.

Calamus Rotang

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ORD. XLIX. TRIPETALOIDEÆ.

(From *tres*, three, and *petalum*, a petal) having three petals.

CALAMUS ROTANG. ROTANG CANE.

Sanguis draconis, *Pharm. Lond.* & *Edinb.* e. fructibus hujus arboris maxime desumitur.

SYNONYMA. Palmijuncus Draco. *Rumph. Herb. Amb. tom.* 5. *p.* 114. *tab.* 58. *f.* 1. Dsierenang. *Kæmpfer. Amœn. Exot. p.* 552.

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 436.

Ess. Gen. Ch. *Cal.* 6-phyllus. *Cor.* 0. *Bacca* exarida, 1-sperma, retrorsum imbricata.

THIS tree may be considered as a scandent kind of palm: the lower part of the stem, to the extent of two or three fathoms, is strong, erect, hollow, jointed, and beset with numerous spines; afterwards it takes a horizontal direction, and overruns the neighbouring trees to the distance of fifty or even one hundred feet: the leaves are several feet long, and composed of numerous pinnæ, which are nearly a foot long, narrow, sword-shaped, and at the

edges serrated with spinous teeth: the flowers are produced in spikes, which separate into long spreading branches: the calyx is divided into six persistent leafits, three exterior and three interior; the former are very short and pointed, the latter are oblong, concave, rigid, and unite closely, so as commonly to conceal the inner parts of the flower: it has no corolla: the filaments are six, capillary, and furnished with round antheræ: the germen is roundish, placed above the insertion of the calyx, and the style is trifid, filiform, twisted in a spiral manner, and terminated by simple stigmata: the fruit is somewhat larger than that of a filbert, membranous, round, one-celled, covered with regular inverted obtuse scales, and contains a red resinous pulp, which soon becomes dry: the seed is round and fleshy. It is a native of the East Indies, where it commonly grows in woods near rivers, and has long supplied Europe with walking-canes, which have usually been imported by the Dutch.

According to Linnæus there are several varieties of the Calamus Rotang, which he has founded upon the different figures of this tree given by Rumphius; but whether these are varieties only, or distinct species, it is not for us to determine. The specimens of the Calamus in the herbariums of Sir Joseph Banks and Dr. Smith, differ considerably in their foliage; so that different species of this obscure genus will probably in future be systematically defined; our business however has only been to select for delineation that which accorded best with the descriptions of it given by Rumphius and Kæmpfer, conformably to the synonyms to which we have referred.

Several trees are known to abound with a red resinous juice, which is obtained by wounding the bark, and called dragon's blood, as the Pterocarpus Draco or Pterocarpus officinalis of Jacquin, the Dracaena Draco, the Dalbergia monetaria, and the Pterocarpus sontolinus.—Besides these, many of the Indian red woods, while growing, pour forth through the fissures of the bark a blood-coloured juice, forming a resinous concretion, to which

the name dragon's blood has been affixed.[a] This drug however is chiefly obtained from the fruit of the Calamus Rotang, and is procured at the Molucca Islands, Java, and other parts of the East Indies, according to Kæmpfer, by exposing this fruit to the steam of boiling water, which softens the external shell, and forces out the resinous fluid, which is then inclosed in certain leaves, of the reed kind, and hung in the air to dry. Another way of obtaining the Sanguis Draconis is by simply boiling the fruit in water, inspissating the strained decoction, and drying it in the same manner as the former. In Palimbania the external surface of the ripe fruit is often observed covered with the resin, which is rubbed off by shaking the fruit together in a bag; when this is done, the drug is melted by the sun's heat, and formed into globules, which are folded in leaves: this is deemed the purest kind of dragon's blood; and that which is next in goodness is procured by taking the fruit, which is found to be still distended with resin, out of the bag, and, after bruising it, exposing it to the sun, or boiling it gently in water; the drug then appears floating upon the surface, and is skimmed off and shaped into small cakes. The inferior sort of dragon's blood is that which rises from the crude fruit after being long boiled, and is usually formed into very large cakes, or masses, in which the membranous parts of the fruit, and other impurities, are intermixed. It is also brought to us adulterated, or artificially composed, in various ways. Both the small globules, and the large masses, which we have noticed, are imported here, and found to vary widely in goodness and purity.

[a] As some of the Crotons, (vide *Linn. Supp. p.* 319) and other trees noticed by Cranz, *de duabus draconis* arboribus. *ad. p.* 13. An exudation similar to the sanguis draconis produced from a tree at Botany Bay, was discovered by Sir Joseph Banks and Dr. Solander. Vide *Hawkesworth's Collection of Voyages, vol.* 3. *p.* 498. *&* 505. But the substance now known at New South Wales by the name of red gum, is perfectly soluble in water; the yellow gum of this place is however in its chemical and medicinal qualities not very different from sanguis draconis, and has been successfully employed as an astringent by Dr. Blane. See *Phillip's Voyage to New South Wales. p.* 59.

The best kind of this gummy resinous substance breaks smooth, is of a dark red colour, and when powdered changes to crimson; it readily melts, and catches flame. It is not acted upon by watery liquors, but it totally dissolves in pure spirit, and soluble likewise in expressed oils. It has no smell, but to the taste discovers some degree of warmth and pungency.

The Cinnabris and Sanguis Draconis appear to have signified the same thing with the Ancient Greeks,* who were well acquainted with the astringent power of this medicine; and in this character it has since been much employed in hæmorrhages and alvine fluxes. At present however it is rarely used internally, being superseded by more certain and effectual remedies of this numerous class; and it enters no officinal composition but that of emplastrum thuris of the London Pharmacopœia.

* Κινναβαρι, αιμα δρακοντος.

Saccharum officinarum

Published by W. Phillips, Jun.

ORD. L. CALAMARIÆ.

ORD. LI. GRAMINA.

Grapes, grass-like plants.

SACCHARUM OFFICINARUM. COMMON SUGAR CANE.

Saccharum non purificatum, & purificatum. *Pharm. Lond.*

SYNONYMA. Arundo saccharifera. *Bauh. Pin. p.* 18. *Park. Theat. p.* 1210. Arundo saccharina. *Gerard. Emac. p.* 38. *Raii Hist. p.* 1278. *Conf. Sloane's Jamaica, tom. i. p.* 108. *t.* 66. *Rumph. Herb. Amb. tom.* 5. *p.* 186. *t.* 74. *f.* 1. *Hughes's Barbadoes, p.* 244. *t.* 23. *f.* 1. *Browne's Jamaica, p.* 129. *Cazaud in Phil. Trans. vol.* 69. *P.* 1. *t.* 3.

Class Triandria. *Ord.* Digynia. *Lin. Gen. Plant.* 73.

Ess. Gen. Ch. *Cal.* 2-valvis, lanugine involucratus. *Cor.* 2-valvis. *Hort. Kew.*

Sp. Ch. S. floribus paniculatis, foliis planis.

THE root is perennial, knotted, and fibrous: the stem is simple, or undivided, jointed, smooth, about two inches in diameter, and rises from eight to eighteen feet in height: the leaves are long, simple, sword-shaped, and embrace the stem: the flowers are small, and produced in a terminal loose panicle: the calyx is a gluma of

two valves, which are oblong, or lance-shaped, pointed, erect, concave, equal, and the base surrounded with long woolly hairs: the corolla is composed of two valves, shorter than those of the calyx, and of a fine delicate texture: the nectarium is divided into two leafits: the filaments are three, capillary, of the length of the corolla, and furnished with oblong antheræ: the germen is oblong, and supports two feathered styles, terminated by a plumose stigma: the seed is oblong, and is invested by the corolla.

The Sugar Cane is a native of Africa, and Lower Asia, as the East Indies and Arabia felix; it is also said to grow spontaneously in America; but others assert that it was unknown in these regions till Europeans possessed it. For a considerable time however it has been industriously cultivated in the American Islands situated within the tropics, and was two centuries ago introduced into the garden of that assiduous botanist Mr. Gerard.

We have before remarked on the subject of manna, that several vegetables secrete a sweet or saccharine juice, easily converted into sugar. The Arundo Bambo L. distils from its joints a fluid, which, by the heat of the sun, concretes into sugar, and is collected for use.[a] A considerable quantity of Sugar is annually obtained in America from the Acer saccharina, a species of Maple. The inhabitants of New Spain procure Sugar from the Agave americana: it is likewise obtained from the Asclepias syriaca, and Zea Mays. Nor are the inhabitants of the northern regions wholly destitute of vegetables which furnish this useful article; for at Kamschatska it is produced from the Heracleum Syphondylium and fucus saccharinus.[b]

The plant here figured affords the Sugar in common use, which is prepared from its expressed juice, boiled with the addition of quick lime, or the common vegetable alkali.[c] The boiling is

[a] See *Pison. Mant. Aromat. p.* 186. It is also procured from the Borassus flabelliformis & Cocos nucifera.

[b] Several roots and fruits likewise afford Sugar. [c] The use of this is to imbibe the superfluous acid.

repeated in smaller and smaller vessels, during which it is often necessary to scum the impurities, and employ additional alkali; when the juice acquires a due consistence, it is suffered to cool in a proper vessel, and the saccharine matter concretes into a crystalized mass. This, after being separated from the melasses, is sold under the name of brown or moist Sugar; the saccharum non purificatum, of the London Pharmacopœia.

The Sugar may be purified in conical moulds, by spreading on the upper broad surface some moist clay, which gradually transfuses its watery moisture through the mass of Sugar, and carries with it a considerable part of the remains of the treacly matter; it is then called clayed Sugar. The saccharum purificatum, or loaf Sugar, is prepared in this country from the other Sugar boiled in water, to which is added lime water, also bullocks blood, or eggs, or commonly both; these are found to clarify the Sugar, by incorporating with its oily and mucilaginous parts, and forming a scum, which is carefully taken off. After sufficient clarification it is strained through a woollen cloth, and boiled again until it becomes of a proper consistence; it is then poured into a refrigeratory, and when duly cooled, into conical moulds made of clay, and perforated at the apex, which is placed downwards: at first the aperture at the apex of the mould is stopped up, but as the Sugar concretes it is opened, in order that the syrup or melasses may drain off. By this draining of the fluid part, the cone of Sugar shrinks at the base below the edges of the mould, which, to render the loaf still whiter, is filled up with moist clay closely applied to the base of the Sugar cone: lastly, the cone is placed upon its base, taken out of the mould, wrapped in paper, and dried or baked in a close oven.

Solutions of brown or white Sugars, boiled down until they begin to grow thick, and then removed into a very hot room, shoot upon sticks placed across the vessels for that purpose into brown or white crystals of candy, (saccharum crystalinum.)

Sugar, as an article of diet, is so well known as not to require

any description of it here: it is manifestly a neutral saline substance, the acid of which Bergman first taught us to separate by means of the nitrous acid:[d] and it since appears that several other substances, both vegetable and animal, contain an acid similar to that of Sugar.[e] The other constituent parts of Sugar seem to be an oily and mucilaginous matter; and though it is not yet satisfactorily explained how a combination of these substances should produce on the organs of taste a sensation of sweetness, yet as it is known that the strong vitriolic acid becomes sweet by uniting it to spirit of wine, we may easily conceive that the sweetness of Sugar may be effected in a somewhat similar way.

From the known properties of Sugar, it has been supposed to unite the unctuous part of the food with the animal juices, and hence it has been thought to increase corpulence or fatness; others however have thought that a contrary effect would be produced by this quality of sugar, viz. by preventing the separation of the oily matter from the blood, which forms fat. Professor Murray, who has treated this subject very elaborately,[f] thinks that by the fermentation which Sugar undergoes in the stomach, and by its relaxing resolvent saponaceous qualities, as well as by the acid which it contains, it rather tends to emaciate than to fatten the body; and in this opinion he observes that he has the authority of Boerhaave, who says if this sweet be taken in large quantities it produces emaciation by dissolving too much of the animal oil. He is therefore much surprized, that Mr. John Hunter should lately recommend Sugar and honey as the best restoratives to those suffering from great debility by a long course of mercury.[g]

[d] See his *Diss. de acido sacchari, published in* 1776.

[e] See *Berthollet in Mem. de l'Acad. &c.* 1780. *p.* 120. Also *Scheele in Vet. Acad. Handl.* 1785. *p.* 23. *sq.*

[f] See *App. Med. vol.* 5.

[g] He says, " Miror ideo, quod adhuc nuper Cl. J. Hunter (Treatise on the Venereal disease, p. 354. sq.) saccharum tanquam optimum restaurans in hominibus diuturno jejunio debilitatis vel mercurii usu emaciatis proposuerit, &c.." *L.c. p.* 410.

What may be the effects of Sugar in this respect in its refined state may be difficult to determine; but in its crude state there can be no doubt of its affording a considerable share of nourishment, both as combined in various vegetable matters, and as separated by art. Those animals, which wholly feed upon it in the Sugar islands, become remarkably corpulent; and the negro children, whose diet happens sometimes for a season to be confined to melasses, are easily distinguished from others by their superior bulk;* they are however more disposed to suffer by worms, and are likewise less active and healthy.

Sugar however appears by the experiments of several writers to prove deleterious to various kinds of worms, either by immersing them in a solution of Sugar, or sprinkling it upon their bodies;[h] and twenty grains of lump Sugar forced into the stomach of a frog, produced immediate torpor and death, which followed in the course of an hour:[i] it also proved fatal to pigeons, and to the gallinæ kind, but not to sparrows; and with sheep and dogs it had no other effect than that of a cathartic.[k]

Sugar may certainly be taken into the stomach in pretty large quantities without producing any bad consequences, though proofs are not wanting of its mischievous effects, in which, by its attenuating and dissolving the fluids, and relaxing the solids, debility and disease are said to have been produced. Stark[l] for many days took from four ounces of Sugar to eight, ten, sixteen, and even twenty, with bread and water, by which nausea, flatus, ulceration in the mouth, with redness and tumefaction of the gums, oppression, purging, pain, and redness of the right nostril,

* In Asia, Elephants and other animals are fed upon Sugar. See *Abridgment of Evidence on Slave Trade.*

[h] See *Redi obs. de animalcul. vivis in corp. viv. p.* 166. *sq.*

[i] *Carminati Opusc. Therap. vol. i. p.* 113.

[k] *Carm. l. c.*

[l] Vide *Clinical & anatomical observations with experiments dietetical & statical.*

bleeding at the nose, and livid streaks over the right scapula, were produced. We are also told that a boy who was much affected by acidity of the stomach, in a short time greedily ate a large quantity of lump Sugar; soon afterwards he was taken ill, and the next morning found dead in his bed. Upon examining his body, red spots, and other marks of a dissolved state of the blood were discovered.[m] What degree of credit ought to be given to these and other cases of the like kind, we leave to the judgment of our readers: but that the liberal use of Sugar to many stomachs has greatly impaired the digestive powers, and laid a foundation for various complaints, is highly probable. At the same time we must admit, that several indulge largely in this article, if not with advantage, at least with impunity.

As a medicine, Sugar cannot be considered to possess much power. Dr. Cullen classes it with the attenuantia; and Bergius states it to be saponacea, edulcorans, relaxans, pectoralis, vulneraria, antiseptica, nutriens. In catarrhal affections both sugar and honey are frequently employed: it has also been advantageously used in calculous complaints; and from its known power in preserving animal and vegetable substances from putrefaction, it has been given with a view to its antiseptic effects. The candy, by dissolving slowly in the mouth, is well suited to relieve tickling coughs and hoarseness. The use of Sugar in various medicinal compositions is too obvious to require being particularly pointed out.

[m] *Rezia in Carminati, l. c, p. 129.*

Polypodium Filix mas.

Published by W Phillips, 1 June 1810

ORD. LII. FILICES.

Ferns.

POLYPODIUM FILIX MAS. MALE POLYPODY, Or, COMMON MALE FERN.

SYNONYMA. Filix. *Pharm. Lond. & Edinb.* Filix non ramosa dentata. *Bauh. Pin. p.* 358. Filix vulgò mas dicta, sive non ramosa. *J. Bauh. Hist. vol.* iii. *p. 737.* Filix mas non ramosa pinnulis latis densis minutim dentatis. *Gerard. Emac. p.* 1129. Filix mas vulgaris. *Park. Theat. p.* 1036. *Raii Hist. p.* 143. *Synop. p.* 120. Polypodium, pinnis pinnatis, obtusis, dentatis. *Hal. Stirp. Helv. n.* 1701. *Bolton. Filices. Brit. p.* 44. Creditur esse πτερις *Dioscorid.* et *Theophr.*

Class Cryptogamia, *Ord.* Filices. *Lin. Gen. Plant.* 1179.

Ess. Gen. Ch. *Fructific.* in punctis subrotundis sparsis per discum frondis.

Sp. Ch. P. Frondibus bipinnatis: pinnis obtusis crenulatis, stipite paleaceo.

THE root is large, long, firm, and covered with thick brown scales, placed in an imbricated order, and furnished with many long black tough fibres: the general leaves are from one to four feet in length, the ribs of which when young are thickly beset with brown tough transparent scales: the figure of the whole leaf is lance-shaped, broadest in the middle, and gradually decreases to

each extremity, terminating above in an acute point; the partial, or second leaves, are from fifteen to forty pairs, remote on the lower part, growing gradually nearer upwards, and running together at the top: the lobes are from seven to fifteen pairs, which are largest at the bottom, and regularly decrease towards the top, where they unite into a point; each lobe is of an oval shape, and a little indented at its upper extremity: the seed-vessels are placed in two rows on the back of the lobes, in number from three to six, of a kidney-shape, and covered with a pellicle; they are at first white, and afterwards change to a bluish or ash-colour; when the seeds are ripe, the pellicle bursts, and after the discharge of the seeds the vessels become brown, and appear as if covered with dust. It is a native of Britain, and grows about the borders of woods near rivulets, and in stony rocky places.

The root of the male fern has lately been greatly celebrated for its effects upon the tape-worm, or Tænia lata, of Linnæus; and this vermifuge power of fern-root seems to have been known to the ancients;[a] and is since commended by different practical writers.[b] Yet notwithstanding the virtues of this root are thus recorded, its use was very generally neglected till some years ago. Madame Noufer, a surgeon's widow, in Switzerland, acquired great celebrity, by employing a secret remedy as a specific in the cure of the tape-worm. This secret was thought of such importance by some of the principal physicians in Paris,[c] who were deputed to make a complete trial of its efficacy, that it was purchased by the French king, and afterwards published by his order.[d] The method of cure has been stated as follows: After the patient has been prepared by an emollient clyster, and a supper of panada, with butter

[a] *Dioscorid.* M. M. lib. 4. cap. 186. Theophrast. Hist. Plant. lib. 9. Galen de Simp. Med. lib. 8. *Pliny.* lib. 28. cap. 9.

[b] *F. Hoffman*, and others.

[c] Lassone, Macquer, De La Motte, Jussieu, Carburi, and Cadet.

[d] Précis du Traitement contre le Tænias ou Vers solitaires, pratiqué à Morat en Suisse, examiné et apprové à Paris. Publié par ordre du Roi; à Paris, 1775.

Lilium vulgare.

and salt, he is directed to take in the morning, while in bed, a dose of two or three drams of the powdered root of male fern. (The dose for infants is one dram.) The powder must be washed down with a draught of water, and two hours after a strong cathartic, composed of calomel and scammony, is to be given, proportioned to the strength of the patient. If this does not operate in due time, it is to be followed by a dose of purging salts, and if the worm be not expelled in a few hours, this process is to be repeated at proper intervals. Of the success of this, or a similar mode of treatment, in cases of tænia, there can be no doubt, as many proofs of it in this country afford sufficient testimony;[e] but whether the fern root or the strong cathartic is the principal agent in the destruction of the worm, may admit of a question, and the latter opinion we believe is the more generally adopted by physicians.[f] It appears, however, from some experiments made in Germany, that the tænia has in several instances been expelled by the repeated exhibition of the root, without the assistance of any purgative.[g]

[e] See Dr. Simmon's "Account of the Tænia," &c.

[f] Dr. Cullen has published this opinion. See Mat. Med. art. Filix. See also Dr. Simmon's l. c. pref. p. 7.

[g] Vide C. C. Gmelin. *Consid. gen. filicum. p.* 34. Wendt. *Nachricht vom. clin. Inst. zu Erlangen, Pens. 5. et 6. p.* 44. 46.

POLYPODIUM VULGARE. COMMON POLYPODY.

SYNONYMA. Polypodium. *Pharm. Dale.* 63. *Alston. i.* 496. *Rutty.* 405. *Lewis.* 519. *Edinb. New Dispens.* 259. *Bergius.* 844. *Murray. v.* 449. *Gerard. Emac.* 1132. *Raii. Hist.* 137. *Synop.* 117. Polypodium foliis pinnatis lanceolatis radice squamata. *Hall. Hist. n.* 1696. Polypodium vulgare. *Bauh. Pin.* 359. *Park. Theat.* 1039. *Hudson. Ang.* 387. *Withering. Bot. Arr. iii.* 55. *Ic. Curtis. Lond. Bolton. Fil. Brit. t.* 18.

Cryptogamia Filices. *Lin. Gen. Plant.* 1179.

Gen. Ch. *Fructif.* in punctis subrotundis, sparsis per discum frondis.

Sp. Ch. P. frondibus pinnatifidis: pinnis oblongis subserratis obtusis, radice squamata.

ROOT perennial, creeping, in an horizontal direction, somewhat thicker than a goose's quill, externally yellowish, internally greenish, covered with brown scales, and beset with small tubercles, from which issue numerous fibres. Stalks or stipites smooth, tapering, grooved on the upper side. Frondes or leaves from half a foot to a foot in length, pinnated; pinnæ oblong, slightly serrated, obtuse. Capsules placed in a row on each side of the midrib of the leaf: they are of a roundish form, and granulated appearance, furnished with footstalks, and opening horizontally into two hemispheres, which are surrounded by an elastic ring. Seeds numerous, oval or reniform, yellow.

It grows on old walls, stumps and roots of trees, and various shady places, fructifying from June till October.

"The leaves of Polypody have a weak ungrateful smell, and a nauseous sweet taste, leaving a kind of roughness and slight acrimony in the mouth. They give out their smell and taste, together with a yellow colour, both to water and rectified spirit: the spirituous tincture is sweeter than the watery; but in inspissation its sweetness is in great part destroyed, or covered by the other matter; the spirituous extract, as Cartheuser observes, being to the taste only subastringent and subacrid, with very little sweetness, while the watery extract retains the full sweetness of the polypody."[a]

The root of the Polypodium quercinum, or those that grow on the oak, has been most esteemed for medicinal use, though no just reason can be assigned for this preference. By the ancients it was

[a] *Lewis. l. c.* Gmelin tried to obtain sugar from this root, but without success. See *Dissert. Consideratio generatis filicum. p.* 38.

Asplenium Scolopendrium

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employed as a pugative, and thought to be peculiarly useful in expelling bile and pituitous humours; therefore much used in maniacal melancholical disorders; but to act as cathartic the root must be exhibited in its recent state, and in a large dose. Another character in which it has been recommended, and for which from its sensible qualities it seems to promise more advantage, is that of a demulcent or pectoral; thus joined with liquorice its good effects have been experienced in coughs and asthmatic affections.

However it is now rarely used in this country; nor have the French authors, Poissoner and Malouin,[b] who have cited instances of its success in mania, been able to restore to it its ancient reputation in this calamitous disorder.

[b] See *Med. de L'Acad. de Scien. de Paris.* 1731.

ASPLENIUM SCOLOPENDRIUM. HARTS-TONGUE.

SYNONYMA. Scolopendrium seu Lingua cervina. *Pharm. Ed.* Lingua cervina officinarum. *Bauh. Pin.* 350. *Ger. Emac.* 1138. *Park. Theat.* 1046. *Ray. Hist.* 134. *Synop.* 116. Asplenium petiolis hirsutis, folio longe lineari lanceolata, integerrimo circa petiolum exsicco. *Hall. Hist. n.* 1095. Asplenium, Frondes lanceolatæ, &c. *Scop. Fl. Carn.* A. Scolopendrium. *Hudson. Flor. Ang.* 384. *Withering. Bot. Arr. iii.* 51. *Ic. Bolton. Fil. Brit. t.* 11. *Curt. Flor. Lond.*

Cryptogamia Filices. *Lin. Gen. Plant.* 1178.

Gen. Ch. *Fructific.* in lineolis disci frondis sparsis.

Sp. Ch. A. frondibus simplicibus cordato-lingulatis integerrimis, stitibus hirsutis.

ROOT perennial, furnished with numerous fibres, which are brown and subdividing. Stipites or stalks simple, beset with mossy hair, extending along the midrib. Leaves long, tongue-shaped, pointed, entire, smooth, often a foot in length, of a shining yellowish green colour, and waved at the margin. Fructifications placed in oblique lines on each side of the midrib of the leaf. Involucrum a membranous linear-shaped vesicle, opening longitudinally. Capsules numerous, on footstalks, globular, furnished with an elastic ring like those of Polypodium. The seeds, which are exceedingly minute, and very numerous, are thrown to a considerable distance by the vessel containing them, being violently forced open by the elastic power of the ring.

It grows on moist shady rocks, old walls, and at the mouths of wells and caverns, producing its fructifications in August and September.

Besides the names above-mentioned, this plant has also been called hemionitis and phyllitis: it is supposed to possess medicinal qualities in common with several other species of the same genus, as golden and common maiden hair, wall-rue, and common spleenwort, which were termed the *five capillary herbs,* and formerly held in great estimation. To the taste they are slightly astringent, mucilaginous, and sweetish; and they change a solution of iron to a black colour; their smell is inconsiderable, except the scolopendrium, which, when recent, and rubbed, manifests a disagreeable odour.

They have been formerly used to strengthen the viscera, restrain hæmorrhages and alvine fluxes, expel gravel, and to open obstructions of the liver and spleen; as well as for the general purposes of demulcents and pectorals, as noticed when speaking of common maidenhair, which with the present plant are the only two of the five capillary herbs retained in the Materia Medica of the Edinburgh Pharmacopœia.

Asplenium Trichomanes.

Published by W. Phillips

ASPLENIUM TRICHOMANES. COMMON MAIDENHAIR, Or SPLEEN-WORT.

SYNONYMA. Trichomanes. *Pharm. Edinb. Park. Theat. p.* 1051. *Raii Hist. p.* 140. *Synop. p.* 119. *Hall. Hist. Stirp. Helv. p.* 1693. Trichomanes Mas. *Ger. Emac. p.* 1146. Trichomanes sive Polytrichum officinarum, *Bauh. Pin. p.* 356. Aspl. Trichomanes. *Hudson. Flor. Ang. p.* 452. *Withering. Botan. Arr. Vol.* 3. *p.* 52. *Relhan. Flor. Cant. p.* 388. *Ic. Flor. Dan. p.* 119. *Bolton. Fil. Brit. p.* 22. *t.* 13.

Class Cryptogamia. *Ord.* Filices. *Lin. Gen. Plant.* 1178.

Ess. Gen. Ch. *Fructificationes* in lineolis disci frondis sparsis.

Sp. Ch. A. frondibus pinnatis: pinnis subrotundis crenatis.

THE root is perennial, consisting of numerous slender fibres, of a dark brown colour: the general leaves are numerous, pinnated, six or eight inches in length; the ribs of which are smooth, and of a shining blackish colour; the pinnæ are sessile, somewhat roundish, indented at the edges, placed oppositely, and consisting of about twenty pairs, of which the largest stands in the middle of the leaf; the others gradually decrease towards each extremity, especially the upper: the fructifications, or seed vessels, are placed on the back of the pinnæ or lobes of the leaf, and form a row of three or four on each side of the midrib: at first they are yellowish, and are covered with a thin membrane, which when at maturity bursts, and discharges the contents over the other leaves.

It is common in this country, and is usually found on old walls and rocks in moist and shaded situations.

This plant we figure on the authority of the Edinburgh Pharmacopœia.

The leaves have a mucilaginous sweetish subastringent taste, without any particular flavour; they are esteemed useful in disorders of the breast, proceeding from a thickness and acrimony of the juices; and are likewise supposed to promote the expectoration of tough phlegm, and to open obstructions of the viscera. They are usually directed in effusion or decoction, with the addition of a little liquorice. A syrup prepared from them, though it has now no place in our pharmacopœias, is frequently to be met with in our shops, both as prepared at home and imported from abroad. A little of these syrups mixed with water makes a very pleasant draught. The syrup brought from abroad has an admixture of orange flower-water.[a]

[a] *Ed. N. Dispens. p.* 209.

The other Medicinal Plants of this Order, are

Systematic Names.	Officinal.	English.
Pteris aquilina	Filix femina	Common Fern
Adiantum capillus veneris	Capillus veneris	True Maidenhair
Asplenium Ceterach	Ceterach	Common Spleenwort
Asplenium ruta muraria	Ruta muraria	Wall-rue
Equisetum arvense	Equisetum	Corn Horse-tail

Lichen islandicus

Published by W. Phillips, 2d July 1810

ORD. LIII. MUSCI.

ORD. LIV. ALGÆ.

(Sea Weeds,)

According to Linnæus this Order belongs to those plants which have their root, leaves, and caudex all in one.

LICHEN ISLANDICUS. ERYNGO-LEAVED LICHEN.

SYNONYMA. Lichen islandicus. *Pharm. Edinb.* Lichen foliis oblongis laciniatis: marginibus conniventibus caliatis. *Flor. Lapp. p.* 445. *Roy. Lugdb. p.* 508. *Hall. Stirp. Helv.* 75. Lichen terrestris, foliis eryngii. *Barb. cent.* 2. *p.* 11. *t.* 6. *f.* 1. 2. Lichenoides rigidum, eryngii folia referens. *Dill. Hist. Musc. p.* 209. *t.* 28. *f.* 111. Lichenoides islandicum. *Hoffm. Pl. Lichenos. vol.* 1. *fasc.* 2. *tab.* 9. *f.* 1. *p.* 41. *Flor. Dan.* 155. *Giscke* 50. *Mich. t.* 44. *f.* 4. Conf. *Withering. Bot. Arr. p.* 196.

Class Cryptogamia. *Ord.* Algæ. *Lin. Gen. Plant.* 1202.

Ess. Gen. Ch. Masc. Receptaculum subrotundum, planiusculum, nitidum.

Fem. Farina foliis adspersa.

D. Foliacei.

Sp. C. L. foliaceus adscendens laciniatus: marginibus elevatis ciliatis.

THIS Lichen is foliaceous, erect, large: the leaves are crowded, connected together, tough, membranous, two or three inches long, variously sinuated, or divided into irregular blunt lobes, turned in at the edges, and fringed with short strong bristles: the surface is smooth, shining, channelled, and of a pale green or brown colour: the fructifications or scutella are large, of a reddish brown colour, and placed on the lobes of the leaves. It is a native of Britain, particularly on the mountains of Wales and Scotland.

The medicinal qualities of the Lichen Islandicus have lately been so well established at Vienna, that this plant is now admitted into the Materia Medica of the Edinburgh Pharmacopœia. It is extremely mucilaginous, and to the taste is bitter and somewhat astringent: its bitterness, as well as the purgative quality which it manifests in its recent state, are in a great measure dissipated on drying, or may be extracted by a slight infusion in water, so that the inhabitants of Iceland convert it into a tolerably grateful and nutritive food. An ounce of this Lichen, boiled a quarter of an hour in a pint of water, yielded seven ounces of a mucilage as thick as that procured by the solution of one part of gum arabic in three of water.

The medical virtues of this Lichen were probably first learned from the Icelanders, who employ it in its fresh state as a laxative,[a] but when deprived of this quality, and properly prepared, we are told that it is an efficacious remedy in consumptions, coughs, dysenteries, and diarrhæas. Scopoli seems to have been the first who of late years called the attention of physicians to this remedy in consumptive disorders;[b] and further instances of its success are related by Herz,[c] Cramer,[d] Tromsdorff,[e] Ebeling,[f] Paulizky,[g] Stoll,[h]

[a] See Borrichius in Bartholini, *Act. Med. Hafn.* 1761. *p.* 126. Olafsen *Reise igiennem Island. tom. i. p.* 159.

[b] *Ann. hist. nat. i.* 1769. *p.* 112. *& Ann. ii. p.* 141.

[c] *Briefe an Verzte, vol.* 2. [d] [e] *Diss. de Lichene Islandico.*

[f] *Diss. de Quassia et Lichene Islandico.*

[g] *Med. Pract. Beob.* 2. *Samml.* 101.

[h] *Rat. Med. P.* 2.

and others, who bear testimony of its efficacy in most of the other complaints above mentioned. Dr. Herz says, that since he first used the Lichen in dysentery, he found it so successful that he never had occasion to employ any other remedy; it must be observed, however, that cathartics and emetics were always repeatedly administered before he had recourse to the Lichen, to which he also occasionally added opium.

Dr. Crichton informs us,[i] that during seven months residence at Vienna he had frequent opportunities of seeing the Lichen Islandicus tried in phthisis pulmonalis at the General Hospital, and confesses, "that it by no means answered the expectation he had formed of it." He adds, however, "From what I have seen, I am fully convinced in my own mind, that there are only two species of this disease where this sort of Lichen promises a cure. The two species I hint at, are the *phthisis hæmoptoica,* and the *phthisis pituitosa,* or *mucosa.* In several cases of these I have seen the patients so far get the better of their complaints as to be dismissed the hospital cured; but whether they remained long so or not I cannot take upon me to say." That this Lichen strengthens the digestive powers, and proves extremely nutritious, there can be no doubt; but the great medicinal efficacy attributed to it at Vienna will not readily be credited at London. It is commonly given in the form of a decoction; an ounce and a half of the Lichen being boiled in a quart of milk. Of this a tea-cupful is directed to be drank frequently in the course of the day. If milk disagree with the stomach, a simple decoction of the Lichen in water is to be used. Care ought to be taken that it be boiled over a slow fire, and not longer than a quarter of an hour.

[i] See *Medical Journal, vol.* 10. *p.* 233.

LICHEN CANINUS. ASH-COLOURED GROUND LIVERWORT.

SYNONYMA. Lichen cinereus terrestris. *Pharm. Dale.* 59. *Alston.* 353. *Lewis.* 386. *Ed. New Dispens.* 219. *Murray. v.* 524. *Raii. Hist.* 117. *Synop.* 76. *Hall. Hist. n.* 1988. Lichen caninus. *Hudson. Flor. Ang.* 546. *Relhan. Flor. Cant.* 434. *Withering. Bot. Arr. iii.* 203. *Ic. Blackw.* 336. *Dill. Hist. Musc. p.* 200. *t.* 27. *f.* 102. *Flor. Dan.* 767.

Cryptogamia Algæ. *Lin. Gen. Plant.* 1202.

Gen. Ch. ***Masc.*** *Receptaculum* subrotundum, planiusculum, nitidum.

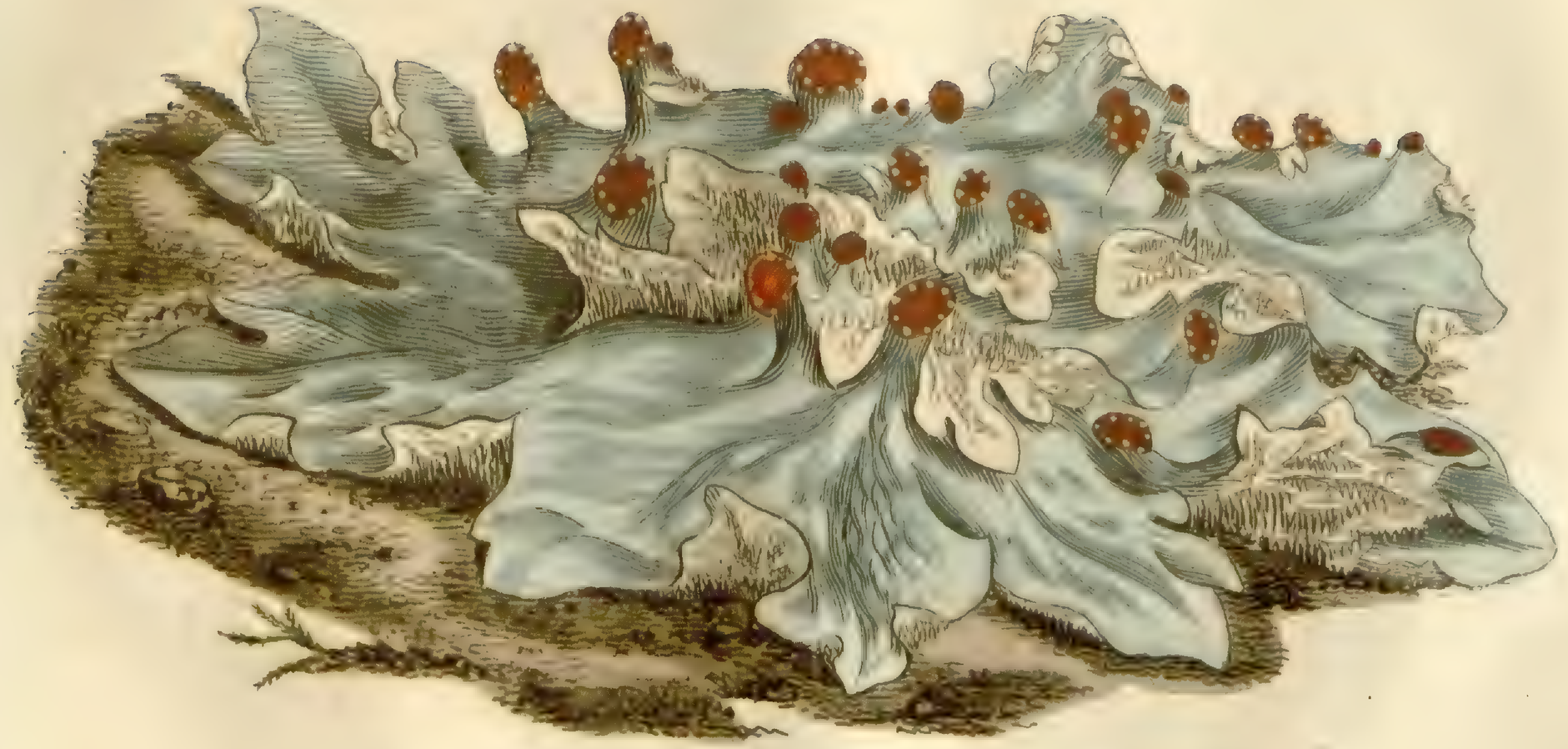
Fem. *Farina* foliis adsperma.

E. Coriacei.

Sp. Ch. L. coriaceus repens lobatus obtusus planus: subtus venosus villosus, pelta marginali adscendente.

GROWING on the ground, consisting of creeping leaves, of a leather-like substance, greenish, or ash-coloured, and appearing as if covered with a farinaceous substance, about a span in length, one or two inches in breadth, widening towards their extremities, separated into lobes, which are short, blunt, single, or in strata; beneath woolly, veined, and attached by slender white fibres. Peltæ or targets round or oblong, terminal, hard, solid, ascending, of a reddish brown colour. It grows on heaths, dry pastures, and woods.

This vegetable has a weak faint smell, and a mucid sharpish taste. It was for a long time highly extolled as a medicine of singular virtue in preventing and curing that dreadful disorder which is produced by the bite of rabid animals. The pulvis antilyssus, a powder composed of equal parts of this lichen and



Lichen caninus

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black pepper,[a] was first recommended as a preservative against the rabies canina by Mr. Dampier, brother of the celebrated circumnavigator of that name; and by the authority of Sir Hans Sloane it was published in the Philosophical Transactions.[b] This powder was afterwards adopted in the London Pharmacopœia in 1721, at the desire of Dr. Mead, who appears to have had repeated experience of its good effects, and who declares that he had never known it to fail where it had been used, with the assistance of cold bathing before the hydrophobia came on. He directs the patient to be blooded to the extent of nine or ten ounces; afterwards a dram and a half of the powder is to be taken in the morning fasting in half a pint of cow's milk warm, for four mornings successively. After these four doses are taken, the patient is directed to go into the cold bath every morning for a month, and then three times a week for a fortnight longer.

On the character of Mead the pulvis antilyssus was long retained in the London Pharmacopœia; but on the revision of that book in 1788 it was deservedly expunged.

[a] This was the original composition; but the quantity of pepper rendering the medicine too hot, the powder was prepared of two parts of the lichen and one of pepper.

[b] *Vol.* 20. *p.* 49. In the *History of the Royal Society* we are told that a dog became rabid, and bit several other dogs belonging to the Duke of York; but by the timely administration of this lichen, they were all preserved from madness. Vol. 492. and vol. 3. 19.

ORD. LV. FUNGI.

(σφόλλος Fungus, a mushroom)

Vegetables of the mushroom tribe.

BOLETUS IGNIARIUS. TOUCHWOOD BOLETUS, or AGARIC.

SYNONYMA. Agaricus chirurgorum. *Pharm. Edinb.* Agaricus quernus. *Pharm. gener.* Fungus in caudicibus nascens, unguis equina figura. *Bauh. Pin.* 372. Polyporus sessilis, convexo-planus, durissimus, cinereus, inferne albus. *Hall. Helv. n.* 2288. *Raii. Synop.* 22. *n.* 7. B. igniarius. *Hudson. Flor. Ang.* 625. *Withering. Bot. Arr. iii.* 425. *Lightfoot. Flor. Scot.* 1034. *Ic. Flor. Dan.* 935. *Bulliard.* 82. & 491. *Schæffer.* 137, 138. *Battarra.* 37. *f. e.*

Cryptogamia Fungi. *Lin. Gen. Plant.* 1210.

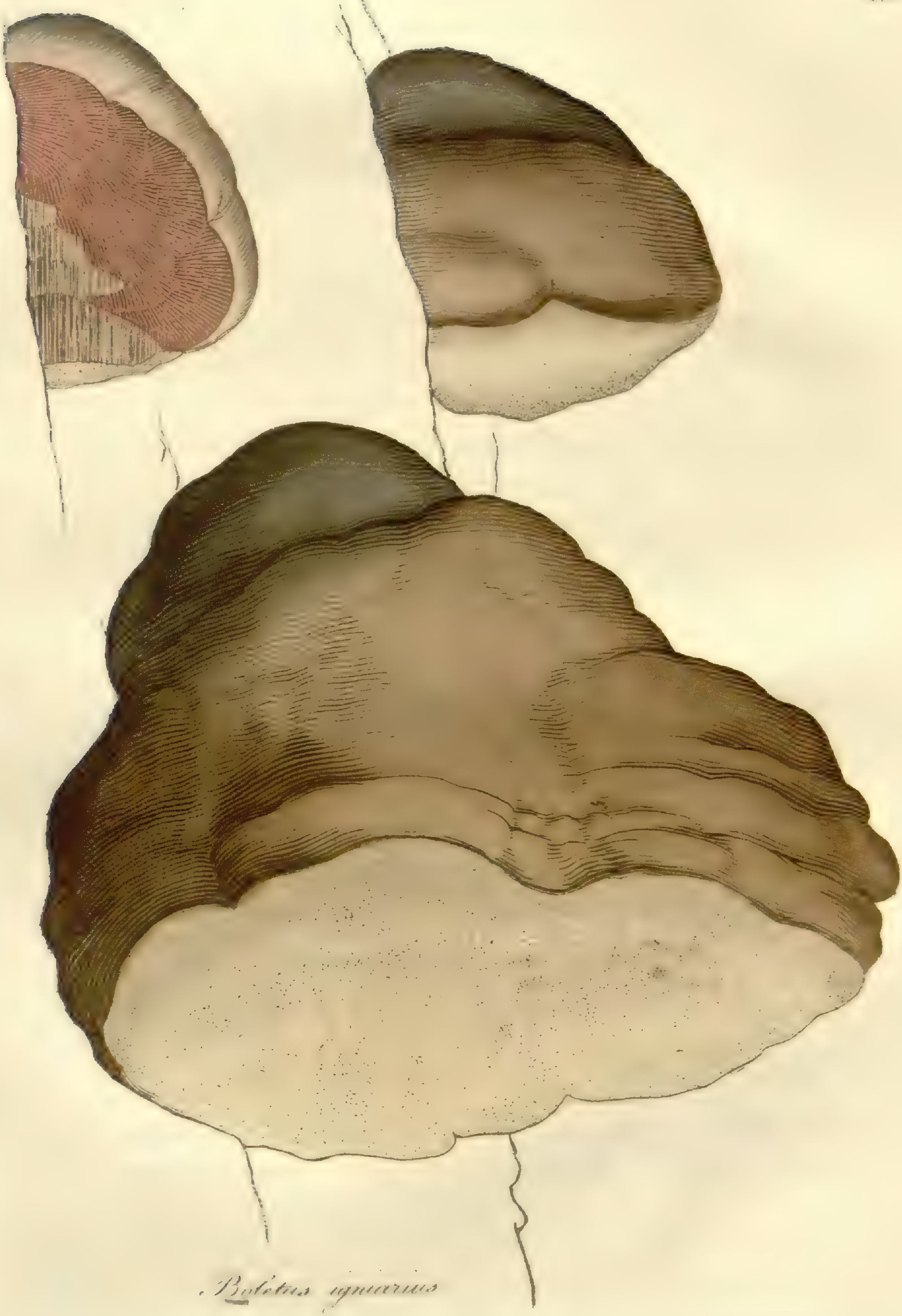
Gen. Ch. *Fungus* horizontalis: subtus porosus.

* *Parasitici, acaules.*

Sp. Ch. B. acaulis pulvinatus lævis, poris tenuissimis.

TUBES green, grey, red, or brownish. *Pores* yellowish, changing to red brown, very fine. *Pileus* shaped like a horse's hoof, smooth, blackish. *With. l. c.*

This fungus is sessile, horizontal, consisting of a very hard woody substance, shaped somewhat like a horse's hoof; on the upper side smooth, but marked with circular ridges of different colours: the under side is flat, white, or yellowish, full of very minute pores: the internal substance is fibrous, hard, tough, of a tawny brown colour. Seeds oval, contained in the tubes.



Boletus igniarius

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Tubes very slender, equal, colour of tanned leather; in old plants stratified, a fresh layer being added every year. *Pileus* very hard, admitting of a polish by rubbing; marked with concentric bands or ridges, each broad ridge indicating a year's growth, and three or four small ones that of the different seasons of the year, varying extremely in colour. *Flesh* fibrous. *Bulliard.*

It grows on the trunks of trees, and varies in size from two to seven or eight inches in diameter.

This fungus has been specifically named Igniarius, from being used in some places as tinder. For this purpose the Germans boil it in strong lye, dry it, and boil it again in a solution of saltpetre.[a]

This Agaric has been much used by surgeons as an external styptic, and that produced on the oak has been generally preferred. Its use was first borrowed from the French; and it was successively recommended by Brossard, Morand, Bouquot, Faget, Rochard, De Mey, who employed it not only to restrain the bleedings in wounds, but to prevent hæmorrhages after amputations, which it is reported to have done as effectually as the ligature. Several English surgeons have also published cases in which the Agaric was successfully used, as Sharp, Warner, Gooch, and others.

It must not be concealed, however, that several others, soon after the introduction of the use of the Agaric in this country, declared it to be an ineffectual application; and at this day, though it may be useful in certain cases, yet in hæmorrhages from the larger arteries, the ligature is the only remedy depended on both in France and England.

To prepare the Agaric for surgical purposes, the hard outer part is cut off, and the soft inner substance is divided into pieces of different sizes, and beat with a hammer to render it still softer.

[a] We are informed by Gleditch, that in Franconia they beat pieces of the inner substance of this fungus, so as to resemble soft leather, and sew them together to form garments.

IPECACUANHA. IPECACUAN.

Ipecacuanha. *Pharm. Lond. & Edinb.*

AFTER the great diligence of naturalists in exploring every quarter of the world, to extend the science of botany, it seems surprising that the plant Ipecacuanha, the roots of which have been in common use more than a century, should not have yet been botanically ascertained. It has been referred to several different genera, as that of paris, euphorbia, lonicera, viola, pyschotria, &c.; and though this last has lately been thought to be the genus to which it belongs, and consequently named P. emetica by the younger Linnæus; yet the authority on which Mutis received the information, we cannot implicitly follow; and the figure before us, though evidently the true Ipecacuanha plant, not being advanced to a state of inflorescence, leaves this matter still undetermined. For the plant here represented, we are obliged to Sir Joseph Banks; to whom it was sent (preserved in spirits) from Brazil by Governor Phillips; and though it is not in a state of perfection, we trust it will, as a curiosity, be thought a valuable addition to our plates.

Piso divides this root into two sorts, the white and the brown, or according to Geoffroy, the Peruvian and Brazilian Ipecacuanha;[a] but three sorts are evidently distinguishable in our shops, viz. ash-coloured or grey, brown, and white. The ash-coloured is brought from Peru, and "is a small wrinkled root, bent and contorted into a great variety of figures, brought over in short pieces full of wrinkles and deep circular fissures, down to a small white woody fibre that runs in the middle of each piece: the cortical part is compact, brittle, looks smooth and resinous upon breaking: it has very little smell; the taste is bitterish and subacrid, covering the

[a] *Pison. Ind. rer. Med. et Nat.* p. 231.

Published by W. Phillips, 1st July, 1830

tongue as it were with a kind of mucilage. The brown is small, somewhat more wrinkled than the foregoing; of a brown or blackish colour without, and white within; this is brought from Brazil (and corresponds with our specimen). The white sort is woody, has no wrinkles, and no perceptible bitterness in taste. The first, the ash-coloured or grey Ipecacuan, is that usually preferred for medicinal use. The brown has been sometimes observed, even in a small dose, to produce violent effects. The white, though taken in a large one, has scarce any effect at all."[b] Dr. Irving has ascertained by experiments,[c] that this root contains a gummy and resinous matter, and that the gum is in much greater proportion, and is more powerfully emetic than the resin: that the cortical part is more active than the ligneous, and that the whole root manifests an antiseptic and astringent power. He also found its emetic quality to be most effectually counteracted by means of the acetous acid, insomuch that thirty grains of the powder taken in two ounces of vinegar, produced only some loose stools.

The first account we have of Ipecacuan is that published by Piso, in 1649; but it did not come into general use till thirty years afterwards, when Helvetius,[d] under the patronage of Louis XIV. employed it at the Hotel de Dieu, and introduced this root into common practice; and experience has proved it to be the mildest and safest emetic with which we are acquainted, having this peculiar advantage, that if it does not operate by vomit, it readily passes off by the other emunctories.

It was first introduced to us with the character of an almost infallible remedy, in dysenteries and other inveterate fluxes, as diarrhœa, menorrhagia, and leucorrhœa, and also in disorders proceeding from obstructions of long standing: nor has it lost

[b] *Edin. New Dispens. p.* 211.

[c] See the Dissertation which obtained the prize medal of the Harveian Society of Edinburgh, for 1784.

[d] See *Recueil des Methodes, p.* 280.

much of its reputation by time. The use of Ipecacuan in these fluxes, is thought to depend upon its restoring perspiration; for in these cases, especially in dysentery and diarrhœa, the skin is dry and tense; and while the common diaphoretics usually pass off by stool, small doses of this root have been administered with the best effects, proving both laxative and diaphoretic.[e] In the spasmodic asthma, Dr. Akenside[f] remarks, that where nothing contraindicates repeated vomiting, he knows no medicine so effectual as Ipecacuan. In violent paroxysms a scruple procures immediate relief. Where the complaint is habitual, from three to five grains every morning, or from five to ten every other morning, may be given for a month or six weeks.

This medicine has also been successfully used in hemorrhages.[g] Several cases of menorrhagia are mentioned by Dahlberg,[h] in which one third or half a grain was given every four hours till it effected a cure. These small doses are likewise found of great use in catarrhal and even consumptive cases, as well as in various states of fever. Dr. Cullen informs us,[i] that he knew a practitioner who cured intermittents by giving five grains of Ipecacuanha, or enough to excite nausea, an hour before the accession of the fit was expected; and that "Dr. Thompson, formerly of Montrose, proposed to cure agues by the employment of emetics given at the time of accession, or at the end of the cold stage: and this practice has also been successful, and may indeed be executed by tartar emetic; but in trying such practices, I have found the Ipecacuanha more manageable than the other, and generally to be more easy to the patient."

[e] Dr. Cullen attributes its good effects entirely to its purgative quality, *M. M. Vol. 2. p. 477.*

[f] *Med. Trans. vol. 1. p. 96.*

[g] See Gianella de admirabili Ipec. virtute in curandis febribus. Patav. 1754. Also Bergius (M. M. p. 103.) and others.

[h] *Vet. Acad. Handl. vol. 31. p. 316. a 1770.*

[i] l. c.

Ipecacuan, particularly in the state of powder, is now advantageously employed in almost every disease in which vomiting is indicated; and when combined with opium, under the form of pulvis sudorificus, it furnishes us with the most useful and active sweating medicine which we possess. It is also given with advantage in very small doses even when it produces no sensible operation. The full dose of Ipecacuan in substance is a scruple, though less doses will frequently produce an equal effect. The officinal preparation is vinum ipecacuanhæ.

In order that this work should contain the whole of the vegetable MATERIA MEDICA, *included in the* LONDON *and* EDINBURGH PHARMACOPŒIAS, *it has been thought necessary to add the following*

APPENDIX.

Ammoniacum (gummi resina) *Pharm. Lond. & Edinb.*

THIS concrete gummy-resinous juice is composed of little lumps, or tears, of a milky whiteness: the external parts of the mass are yellowish or brownish, and the white tears change to the same colour on being exposed for some time to the air.

We have hitherto had no information concerning the plant which produces this drug, nor of the manner in which it is obtained: judging however from the seeds and pieces of an umbelliferous plant, with which it is often intermixed, there is no doubt of its being the produce of a vegetable of this kind; and as Ammoniacum is very analogous to galbanum, the former, as well as the latter, is probably procured from a species of the Bubon. According to the ancient account of this drug, it was produced in the west of Egypt, where the famous temple of Jupiter Ammon formerly stood, now the kingdom of Barca. At present it is brought here from Turkey, and from the East Indies.

Ammoniacum has a strong and somewhat ungrateful smell, and a nauseous sweetish taste, followed by bitterness. Its effects are similar to those of galbanum, or rather of assafœtida, but it has been generally preferred to either of these for resolving obstructions of the lungs; hence it is chiefly employed in asthmas and difficulty of expectoration. In large doses it opens the bowels.

Angustura (cortex) *Pharm. Edinb.*

ANGUSTURA Bark is imported here in thin convex pieces, of about an inch and an half or less in breadth, and about six inches in length. It is not fibrous, but hard, compact, of a yellowish brown colour, and covered with a whitish uneven epidermis. Reduced to powder it has the yellow appearance of rhubarb. To the taste it manifests a bitterish and an aromatic quality, leaving a sensation of heat upon the tongue, which continues for some time. Its odour, when recent, is said to be ungrateful, but in its dried state this is not perceptible. An ounce of the bark affords, by means of alcohol, about two drams of a resinous bitter extract; and nearly three drams and a half of a gummy extract may be obtained from the like quantity, by water.

Some have contended that this drug should be called Augustine, from St. Augustin in East Florida; but it seems more properly named Angustura, which is a place in South America, whence it was brought by the Spaniards to the Island of Trinidad.

From what tree it is obtained we find no certain account. It has been supposed to be the bark of the Magnolia glauca; but, with more probability, it has been since thought to be that of the Brucea antidysenterica; (see *Bruce's Travels, &c. vol.* 5. *p.* 69. and *J. F. Miller, tab.* 25.) or Brucea ferruginea of L'Heritier and Aiton: (*Hort. Kew. iii.* 397) for the description of the bark of this tree, given by Mr. Bruce, agrees very well with the cortex angusturæ; and as far as can be judged by the bark of a living plant of this species, now growing in the Royal Garden at Kew, this opinion is still further confirmed.

During the last five years, in which the Angustura bark has been known as a medicine in this country, it has been successfully used in the characters of a febrifuge, tonic, and astringent. In intermittents it has been found equally effectual as Peruvian bark,

and generally more acceptable to the stomach; and in cases of diarrhæa, dyspepsia, scrophula, and great debility, it has been found to be an useful remedy. (See *Brande, in London Med. Journal for* 1790.)

Balsamum Peruvianum. *Pharm. Lond. & Edinb.*

THE tree which produces this balsam was not botanically ascertained till the year 1781, when a specimen of it was sent by Mutis, from Terra Firma, to the younger Linnæus, who has described it in the Supplementum plantarum under the name of *Myroxylon peruiferum.* Its synonyma are Hoitziloxitl. *Hernand. Thes. rer. Med. Nov. Hisp. p.* 51. *cum. fig.* and Cabureiba Pis. *Ind. Hist. Nat. et Med. p.* 119.

It grows in Peru, Brasil, Mexico, and Terra Firma.

Two kinds of this balsam are imported here; the common or black, and the white. The first, which is chiefly used, is about the consistence of a syrup, of a dark opake reddish brown colour, inclining to black, and of an agreeable aromatic smell, and a very hot pungent taste.

Balsam of Peru is a very warm aromatic medicine, hotter than any of the other natural balsams; hence in cold phlegmatic habits, it has been given to warm the constitution, strengthen the nervous system, and attenuate viscid humours. It has been also used by surgeons in certain wounds and ulcers.

The White Balsam of Peru, or white storax, is brought here in gourd shells, and is of a pale yellow colour, thick, and tenacious, becoming by age solid and brittle.

This balsam is less hot than the former, but of a more agreeable fragrant smell, approaching somewhat to that of storax.

Balsamum Canadense. *Pharm. Lond. & Edinb.*

THIS balsam is the resinous juice of the Pinus Balsamea, or Balm of Gilead Fir; a tree now well known in this country: which should have been figured with the other pines, but the drawing of it was at that time unfortunately mislaid.

This balsam, which is transparent, of a light amber colour, and tolerably firm consistence, is brought to this country from Canada; and hence receives the name of Canada balsam. It may be considered as one of the purest of the turpentines; and on this account it has lately been received into the Materia Medica; and from being less offensive to the stomach, promises to supersede the balsam of Copaiva.

Cassia lignea. (*cortex, flores nondum explicatæ.*) *Pharm. Edinb.*

IN the Edinburgh Pharmacopœia this is referred to the Laurus Cassia; but we have already stated the cassia to be only a variety of the Cinnamomum, and late observations tend to confirm this opinion. As a medicine it is certainly in every respect inferior to cinnamon.

Colomba (radix) *Pharm. Lond. & Edinb.*

Synonyma. Columba. Redi, Exp. circa varias res naturales, 1685. p. 142. *Raijs de Mosambique* of the Portuguese.

WE have no botanical account of the vegetable which furnishes this root. It is brought from Colomba in Ceylon in knobs, or circular pieces, brown, and wrinkled on the outer surface, yellowish within, and consisting of cortical, woody, and medullary lamina. Its smell is aromatic; its taste is pungent, and nauseously bitter.

Practitioners in the East Indies first borrowed the use of this root from the natives of those countries where it is produced, and found it of great service in most disorders of the stomach and bowels, and especially in the cholera, so fatal in hot climates. It stopped the vomiting in this complaint, more speedily and effectually than any other medicine; an effect attributed to its property of correcting the putrid disposition of the bile. With this intention its use has been recommended by Dr. Percival;' and it has been successfully used in this country, not only in bilious complaints, but in various cases of dyspepsia.

Cubeba. *Pharm. Lond. & Edinb.*

IT is generally admitted that this is a species of pepper, and in the Supplementum plantarum a description of the Piper Cubeba, a shrub growing in the woods of Java, is given: but we have no certain account that this is the species which furnishes the officinal cubebs; nor have we any information of the manner in which this fruit is collected.

The long footstalk attached to the Cubeba distinguishes it at first sight from the other kinds of pepper, and hence it has been called Piper caudatum. Though still retained in both the British Pharmacopœias, it is much inferior to pepper, and has justly fallen into disuse.

Elemi (resini) *Pharm. Lond.*

THE London College refers this resin to the Amyris Elemifera of Linnæus; but this celebrated naturalist, in applying the name Elemifera to Catesby's Frutex trifolius resinosus floribus tetrapetalis albis racemosis, has since acknowledged himself to have been mistaken; as appears in the Amœn. Acad. vol. 7. where he supposes the Elemi to be produced by a species of Bursera.

However, the parent plant of this resin is still unascertained.

Elemi is brought here from the Spanish West Indies; it is most esteemed when softish, somewhat transparent, of a pale whitish colour, inclining a little to green, and of a strong, though not unpleasant smell.

Its use is confined to ointments and plasters.

Gambogia (gummi resina) *Pharm. Lond. & Edinb.*

BY the industry of Kœnig, a physician who resided many years at Tranquebar, it has been lately discovered that the genuine Gamboge is the concrete juice of a tree which constitutes a new genus, under the name Stalagmitis (*Schr. Gen.* 1585). It belongs to the class Polygamia monœcia, and is fully described by Professor Murray in the Comment. Gotting. (9. p. 175.) and App. Med. Vol. 4.

The Cambogia gutta of Linnæus, according to Kœnig, also affords a yellow juice; but this, on drying, acquires a brownish hue, and is considered as a spurious kind of Gamboge.

Gamboge is brought from the East Indies, and is well known to operate powerfully both upwards and downwards. Geoffroy says, that its emetic tendency is counteracted, if given in combination with mercurius dulcis, and that it may be given with less danger from its violence, in a liquid form than in substance. In hydropic cases it is often used to quicken the operation of other purgatives.

Though the ordinary dose of this cathartic is two or three grains, yet for the expulsion of the tape worm it has been given, with an equal quantity of vegetable alkali, to the extent of fifteen grains.

Kino (resina) *Pharm. Lond. & Edinb.*

Seu gummi rubrum astringens gambiense.

THE tree, from which this resin is obtained, though not yet botanically ascertained, is known to grow on the banks of the river Gambia, in Africa. The first account of this drug is related by

Moor in his "*Travels into the interior parts of Africa,*" *Ed.* 2. *p* 113. by which we learn, that on wounding the bark of the tree, the fluid Kino immediately issues drop by drop, and by the heat of the sun is formed into a hard mass. This, which was for some time considered as a species of sanguis draconis, was afterwards fully explained, and its medical character established, by Dr. John Fothergill. (*Med. Obs. & Inq. vol.* 1.)

Kino has a considerable resemblance to catechu, but redder, and is more firm, resinous, and astringent. It is now in common use, and is the most efficacious vegetable astringent, or styptic, in the Materia Medica.

Myrrha (gummi-resina) *Pharm. Lond. & Edinb.*

THOUGH Mr. Bruce (*Travels to discover the Source of the Nile, vol.* 5. 27.) was unable to obtain a botanical specimen of the tree which produces Myrrh, yet, from his account of it, we have no doubt in referring it to the genus mimosa; for in his opinion it very nearly resembles the *acacia vera,* which is the mimosa nilotica; and this corresponds with the description of the tree given by Dioscorides. The trees producing Myrrh grow on the eastern coast of Arabia Felix, and in that part of Abyssinia which is situated near the Red Sea, and called by Mr. Bruce Troglodyte. The same author says, "In order to have Myrrh of the first or more "perfect sort, the Savages chuse a young vigorous tree, whose "branches are without moss or any parasite plant, and above the "first large branches give the tree a deep wound with an axe. "The Myrrh which flows the first year through this wound is "Myrrh of the first growth; and never is in any great quantity. "This operation is performed some time after the rains have "ceased, that is, from April to June, and the Myrrh is produced "in July and August. The sap, once accustomed to issue through "the gash, continues so to do spontaneously at the return of every "season: but the tropical rains, which are very violent, and con-

" tinue six months, wash so much dirt, and lodge so much water " in the cut, that in the second year the tree has begun to rot " and turn foul in that part, and the Myrrh is of a second quality, " and sells in Cairo about a third cheaper than the first. The " Myrrh also produced from gashes near the roots, and in the " trunks of old trees, is of the second growth and quality, and " sometimes worse. This, however, is the good Myrrh of the " Italian shops every where in Venice. It is of a black red foul " colour, solid, and heavy, losing nothing in weight, and easily " distinguished from that of Arabia Felix. The third and worst " kind is gathered from old wounds or gashes formerly made in " old trees, or Myrrh that, passing unnoticed, has hung upon the " tree a whole year, of a black earth-like colour, heavy, with " little smell or bitterness." *(Phil. Trans. vol.* 65.)—Mr. Bruce also says, that sassa gum is fraudulently mixed with the Myrrh.

The medicinal effects of Myrrh are warm, corroborant, and antiseptic; it has also been successfully employed in phthisical cases as a pectoral; and though allied to some of the balsams, it is found to be more efficacious and less irritating to the system.

Palma (fructus oleum expressum) *Pharm. Edinb.*

PALM oil is produced chiefly from the Cocos butyracea, thus specifically named from the butter-like appearance of the oil which it yields. It is well known, however, that other palms furnish this unctuous substance, as the Elaeis Guineensis L. (see *Jacquin*); also " The palm-oil tree" of Sloane, or Palma oleosa of Hughes. To these we may add the Palma dactylifera aculeata fructu corallino major of Barrere *(de la France equinoxiale)*, and the spinous palms (Palmiers Avoira) mentioned by Aublet *(Guiane Franc. tom. 2. App. p. 95.)*

In the Supplementum plantarum we find not only a full description of the Cocos butyracea, on the authority of Mutis, but also an account of the method used to obtain the oil by the inhabitants of the warmer parts of America, where this palm is a native.

The fruit of this palm, which is triangular, yellow, and about the size of a plum, is bruised and thrown into water, by which the kernels are gradually dissolved without the aid of heat; the oil then rises to the surface, and on being washed two or three times is rendered fit for use.

When brought to this country, it is of the consistence of an ointment, and of an orange yellow colour, with little taste, and of a strong though not disagreeable smell. When it becomes white it is rancid, and ought to be rejected. In the countries where this oil is produced, it is used for culinary and dietetic purposes; with us it has been confined to external application, in pains, tumours, and sprains; but it seems to have no advantage over the other bland oils.

Sagapenum (gummi-resina) *Pharm. Lond. & Edinb.*

IT is conjectured that this concrete juice is the production of an umbelliferous plant, like ammoniacum, and for the same reasons. It is brought from Persia and Alexandria in large masses, externally yellowish, internally paler, and of a horny clearness. Its taste is hot and biting, its smell of the alliaceous or fœtid kind.

Its virtues are similar to those which we have ascribed to assafœtida, but weaker, and consequently it is less powerful in its effects.

Sarcocolla (gummi-resina) *Pharm. Lond.*

LINNÆUS supposes this to be produced by the Penæa mucronata, an Ethiopian shrub of the order conglomeratæ. Others however have, in this instance, doubted his authority, and the fact is still undetermined.

Sarcocolla is a concrete juice, brought from Persia and Arabia in small grains of a pale yellow, having also sometimes mixed with them a few of a deep red colour. Its taste is bitter, but followed

with some degree of sweetness. It has been chiefly used for external purposes, and, as its name imports, has been thought to conglutinate wounds and ulcers; but this opinion now no longer exists.

It is an ingredient in the pulvis è cerussa.

Radix Indica Lopeziana. *Pharm. Edinb.*

THIS root is called after Lopez, a Portuguese, who, according to Redi, found it growing in the province of Zanquebar in Africa; But Gaubius states it to be a native of Asia, and brought from Goa in Malacca to Batavia.

To what tree this root is to be referred we have not the means to determine.

The root is brought in pieces of eight or nine inches in length, and from one to two inches in thickness, though generally smaller, consisting of a whitish or straw-coloured light wood, having a brownish firm medullary substance. Its bark is soft, wrinkled, brown, somewhat spongy, and covered with a thin yellowish epidermis.

This root, which possesses no remarkably sensible qualities, is regarded in the East Indies as a medicine of extraordinary efficacy in diarrhœas; and the numerous trials of it, made by Gaubius, and others, have tended greatly to confirm its reputation.

Its dose, in powder, is from 15 to 30 grains, repeated three or four times a day.

THE END.

CATALOGUE,

In which all the Plants composing the MATERIA MEDICA, as referred to by the Colleges of London and Edinburgh, are arranged according to the System of Linnæus, and distinguished respectively by the letters L E.

CLASS I. MONANDRIA.

ORD. MONOGYNIA.

Amomum *Zingiber*	L	E
Cardamomum	L	E
Kæmpferia *rotunda*	L	E
Curcuma *longa*	L	E

II. DIANDRIA.

MONOGYNIA.

Olea *europæa*	L	E
Veronica *Beccabunga*	L	—
Gratiola *officinalis*	L	E
Rosmarinus *officinalis*	L	E
Salvia *officinalis*	L	E

TRIGYNIA.

Piper *nigrum*	L	E
longum	L	E
Cubeba	L	E

III. TRIANDRIA.

MONOGYNIA.

Valeriana *officinalis*	L	E
Tamarindus *indica*	L	E
Crocus *sativus*	L	E
Iris *florentina*	L	E
Pseudo Acorus	—	E

DIGYNIA.

Saccharum *officinarum*	L	E
Hordium *distichon*	L	—
Triticum *hybernum*	L	—
Avena *sativa*	L	—

IV. TETRANDRIA.

MONOGYNIA.

Rubia *tinctorum*	L	E
Plantago *major*	—	E
Dorstenia *Contrajerva*	L	E
Santalum *album*	—	E

V. PENTANDRIA.

MONOGYNIA.

Anchusa *tinctoria*	—	E
Menyanthes *trifoliata*	L	E
Spigelia *marilandica*	L	E
Convolvulus *Scammonia*	L	E
Jalapa	L	E
Cinchona *officinalis*	L	E
Verbascum *Thapsus*	—	E
Datura *Stramonium*	—	E
Hyoscyamus *niger*	—	E
Nicotiana *Tabacum*	L	—
Atropa *Belladonna*	—	E
Solanum *Dulcamara*	—	E

Psychotria *emetica*	L	E
Capsicum *annuum*	L	E
Chironia *Centaurium*	L	E
Rhamnus *catharticus*	L	E
Ribes *rubrum*	L	—
nigrum	L	—
Vitis *vinifera*	L	—

DIGYNIA.

Chenopodium *Vulvaria*	—	E
Ulmus *campestris*	L	E
Gentiana *lutea*	L	E
purpurea	—	E
Salsola *Kali, &c.*	L	E

UMBELLATÆ.

Eryngium *maritimum*	L	—
Daucus *Carota*	L	E
Conium *maculatum*	L	E
Ferula *Assa fœtida*	L	E
Angelica *Archangelica*	L	E
Bubon *Galbanum*	L	E
Cuminum *Cynynum*	L	E
Coriandrum *sativum*	L	E
Sium *nodiflorum*	L	—
Imperatoria *Ostruthium*	—	E
Pastinaca *Opoponax*	L	—
Anethum *graveolens*	L	E
Fœniculum	L	E
Carum *Carui*	L	E
Pimpinella *Saxifraga*	—	E
Anisum	L	E
Apium *Petroselinum*	L	E

TRIGYNIA.

Sambucus *nigra*	L	E

PENTAGYNIA.

Linum *usitatissimum*	L	E

VI. HEXANDRIA.

MONOGYNIA.

Allium *sativum*	L	E
Lilium *candidum*	—	E
Scilla *maritima*	L	E
Convallaria *Polygonatum*	—	E
Aloë *perfoliata, &c.*	L	E
Acorus *Calamus*	L	E
Calamus *Rotang, &c.*	L	E

TRIGYNIA.

Rumex *aquaticus*	—	E
Acetosa	L	E
Colchicum *autumnale*	L	E

VII. HEPTANDRIA.

MONOGYNIA.

Æsculus *Hippo-castanum*	—	E

VIII. OCTANDRIA.

MONOGYNIA.

Amyris *Elemifera*	L	—
gileadensis	—	E
Daphne *Mezereum*	L	E

TRIGYNIA.

Polygonum *Bistorta*	L	E

IX. ENNEANDRIA.

MONOGYNIA.

Laurus *Cinnamomum*	L	E
Cassia	—	E
Camphora	L	E
Nobilis	L	E
Sassafrass	L	E

TRIGYNIA.

Rheum *palmatum*	L	E

X. DECANDRIA.

MONOGYNIA.

Cassia *Senna*	L	E
Fistula	L	E
Guaiacum *officinale*	L	E
Dictamnus *albus*	L	—
Ruta *graveolens*	L	E
Toluifera *Balsamum*	L	E
Myroxylon *peruiferum*	L	E
Hæmatoxylum *Campechianum*	L	E
Quassia *amara*	L	E
Simaruba	L	E
Rhododendron *chrysanthum*	—	E
Copaifera *officinalis*	L	E
Arbutus *Uva ursi*	L	E
Styrax *officinale*	L	E
Benzoë	L	E

DIGYNIA.

Saxifraga *granulata*	—	E
Dianthus *Caryophyllus*	L	E

PENTAGYNIA.

Oxalis *Acetosella*	L	—

XI. DODECANDRIA.

MONOGYNIA.

Asarum *europæum*	L	E
Canella *alba*	L	E

XII. ICOSANDRIA.

MONOGYNIA.

Myrtus *Pimenta*	L	E
Punica *Granatum*	L	E
Amygdalus *communis*	L	E
Prunus *spinosa*	L	—
domestica	L	—

PENTAGYNIA.

Pyrus *Cydonia*	L	E

POLYGYNIA.

Rosa *centifolia*	L	E
canina	L	—
gallica	L	E
Rubus *idæus*	L	—
Potentilla *Reptans*	L	—
Tormentilla *erecta*	L	E

XIII. POLYANDRIA.

MONOGYNIA.

Papaver *somniferum*	L	E
Rhœas	L	—
Caryophyllus *aromaticus*	L	E
Cistus *creticus*	L	—

TRIGYNIA.

Delphinium *Staphisagria*	L	—
Aconitum *Napellus*	L	E

POLYGYNIA.

Helleborus *niger*	L	E
fœtidus	L	—
Clematis *recta*	—	E
Anemone *pratensis*	—	E

XIV. DIDYNAMIA.

GYMNOSPERMIA.

Teucrium *Marum*	L	—
Scordium	L	E

Hyssōpus *officinalis*	—	E
Lavendula *Spica*	L	E
Mentha *piperita*	L	E
spicata, Hud.	L	E
Pulegium	L	E
Glecoma *hederacea*	L	—
Marrubium *vulgare*	L	E
Origanum *vulgare*	L	—
Majorana	L	E
Thymus *Serpyllum*	—	E
vulgaris	—	E
Melissa *officinalis*	L	E

ANGIOSPERMIA.

Digitalis *purpurea*	L	E

XV. TETRADYNAMIA.

SILICULOSA.

Cochlearia *officinalis*	L	E
Armoracia	L	E

SILIQUOSA.

Sisymbrium *Nasturtium*	L	E
Sinapis *nigra*	L	E
Cardamine *pratensis*	L	E

XVI. MONADELPHIA.

POLYANDRIA.

Althæa *officinalis*	L	E
Malva *sylvestris*	L	E

XVII. DIADELPHIA.

HEXANDRIA.

Fumaria *officinalis*	—	E

OCTANDRIA.

Polygala *Senega*	L	E

DECANDRIA.

Pterocarpus *santalinus*	L	E
Dolichos *pruriens*	—	E
Spartium *scoparium*	L	E
Geoffroya *inermis* Wrig.	—	E
Glycyrrhiza *glabra*	L	E
Trigonella *Fœnum græcum*	L	E
Astragalus *Tragacantha*	L	E

XVIII. POLYADELPHIA.

ICOSANDRIA.

Citrus *Medica*	L	E
Aurantium	L	E

POLYANDRIA.

Hypericum *perforatum*	L	—

XIX. SYNGENESIA.

POLYGAMIA ÆQUALIS.

Cynara *Scolymus*	L	E
Leontodon *Taraxacum*	L	E
Arctium *Lappa*	L	E

POLYGAMIA SUPERFLUA.

Tancetum *vulgare*	L	E
Artemisia *Abrotanum*	L	E
Absinthium	L	E
vulgaris	—	E
maritima	L	—
Santonicum	L	E

Tussilago *Farfara*	L	E
Inula *Helenium*	L	E
Arnica *montana*	L	E
Anthemis *nobilis*	L	E
pyrethrum	L	E
Achillea *Millefolium*	—	E

POLYGAMIA FRUSTRANEA.

Centaurea *benedicta*	L	E

MONOGAMIA.

Lobelia *siphilitica*	—	E
Viola *odorata*	L	E

XX. GYNANDRIA.

DIANDRIA.

Orchis *mascula*	—	E

HEXANDRIA.

Aristolochia *Serpentaria*	L	E
rotunda, &c.	—	E

POLYANDRIA.

Arum *maculatum*	L	E

XXI. MONOECIA.

MONANDRIA.

Myristica *moschata* Thunb.	L	E

TETRANDRIA.

Urtica *dioica*	L	E
Morus *nigra*	—	E

POLYANDRIA.

Quercus *Robur*	L	E
Juglans *regia*	L	—

MONADELPHIA.

Pinus *species variæ*	L	E
Croton *Cascarilla*	L	E
Ricinus *communis*	L	E

SYNGENESIA.

Momordica *Elaterium*	L	—
Cucumis *Colocynthis*	L	E
Bryonia *alba*	—	E

XXII. DIOECIA.

DIANDRIA.

Salix *fragilis*	—	E

PENTANDRIA.

Pistacia *Terebinthus*	L	—
Lentiscus	L	E

HEXANDRIA.

Smilax *Sarsaparilla*	L	E

MONADELPHIA.

Juniperus *communis*	L	E
Lycia	L	E
Sabina	L	E
Cissampelos *Pareira*	L	—

XXIII. POLYGAMIA.

MONOECIA.

Veratrum *Album*	L	E
Parietaria *officinalis*	L	E
Stalagmitis *Cambogioides*, Mur.	L	E
Mimosa *nilotica*	L	E
Catechu	L	E

DIOECIA.

Fraxinus *Ornus, &c.*	L	E
Panax *quinquefolium*	L	E

TRIOECIA.

Ficus *Carica*	L	E

XXIV. CRYPTOGAMIA.

FILICES.

Asplenium *Trichomanoides*	—	E
Polypodium *Filix mas*	L	E

ALGÆ.

Lichen *islandicus*	—	E

FUNGI.

Boletus *igniarius*	—	E

APPENDIX, Palmæ.

Cocos *butyracea*	—	E

The following ARRANGEMENT is extracted from the MATERIA MEDICA, published by Dr. CULLEN.

MATERIÆ MEDICÆ TABULA GENERALIS.

In qua Medicamenta ad Capita quædam secundum indicationes morborum curatorias quibus respondent, referuntur.

MATERIA MEDICA constat ex

- NUTRIMENTIS quæ sunt,
  - *Cibi*, Sect. I.
  - *Potus*, S. II.
  - et quæ cum his assumuntur *Condimenta*, S. III.
- MEDICAMENTIS quæ agunt in
  - Solida.
    - Simplicia.
      - *Astringentia*, Cap. I.
      - *Tonica*, C. II.
      - *Emollientia*, C. III.
      - *Erodentia*, C. IV.
    - Viva
      - *Stimulantia*, C. V.
      - *Sedantia.*
        - *Narcotica*, C. VI.
        - *Refrigerantia*, C. VII.
      - *Antispasmodica*, C. VIII.
  - Fluida.
    - Immutantia
      - Fluiditatem.
        - *Attenuantia*, C. IX.
        - *Inspissantia*, C. X.
      - Misturam.
        - Acrimoniam corrigentia.
          - In genere
            - *Demulcentia*, C. XI.
          - In specie
            - *Antacida*, C. XII.
            - *Antalkalina*, C. XIII.
            - *Antiseptica*. C. XIV.
    - Evacuantia.
      - *Errhina*, C. XV.
      - *Sialogoga*, C. XVI.
      - *Expectorantia*, C. XVII.
      - *Emetica*, C. XVIII.
      - *Cathartica*, C. XIX.
      - *Diuretica*, C. XX.
      - *Diaphoretica*, C. XXI.
      - *Menagoga*, C. XXII.

CATALOGUE OF THE VEGETABLE MATERIA MEDICA,

According to the preceding TABLE.

I. NUTRIMENTA.

A. FRUCTUS.

a. *Acido-dulces recentes.*

Prunum
Aurantium
Limonium
Rubus idæus
Ribes rubrum
——— nigrum
Morum
Uvæ vitis

b. *Acido-dulces siccatæ.*

Uvæ passæ majores
——— minores
Caricæ

B. HERBÆ OLERACEÆ.

Nasturtium aquaticum
Taraxacum
Petroselinum
Cinara

C. RADICES.

Daucus
Allium
Satyrion

D. SEMINA *Nuces.*

Amygdalæ
——— dulces
——— amaræ
Juglans
Olivæ

II. MEDICAMENTA.

I. ADSTRINGENTIA.

Rosa rubra
Pentaphyllum
Tormentilla
Rubia
Acetosa
Hydrolapathum
Bistorta
Filix
Trichomanes
Granatum
Quercus
Gallæ
Lignum campechense
Cydonia
Morum
Pruna sylvest.
Acacia
Catechu
Sanguis draconis
Adstringentia varia
Anchusa
Balustina
Hypericum
Millefolium
Plantago
Convallaria
Uva ursi

II. TONICA.

Gentiana
Centaureum minus
Quassia
Simaroubra
Trifolium palustre
Fumaria
Chamæmelum
Tanacetum
Absynthium
Abrotanum
Absynthium maritimum
Scordium
Serpentaria virginiana
Arnica
Cortex peruvianus

III. EMOLLIENTIA.

a. *Columniferæ.*

Althæ
Malva

b. *Farinosa.*

Cydonium semina
Fœnum græcum
Linum

Emollientia varia

Parietaria
Verbascum
Lilium album

IV. ERODANTIA SIVE CORROSIVA.

V. STIMULANTIA.

A. *Verticillatæ.*

Lavendula
Melissa
Majorana

Origanum
Marum
Rosmarinus
Hyssopus
Hedra terrestris
Mentha
Mentha piperitis
Pulegium
Thymus
Serpyllum
Salvia

B. *Umbellatæ.*

Anethum
Angelica
Anisum
Caruon
Coriandrum
Cuminum
Fœniculum
Pimpinella

C. *Siliquosæ.*

Cochlearia
Nasturtium aquat.
Raphanus rusticanus
Sinapi

D. *Alliaceæ.*

Allium

E. *Coniferæ.*

Abies
Pinus
Juniperus

F. *Balsamica.*

Terebinthina veneta
———— communis
Balsamum canadense
———— copaiva
———— tolutanum
———— gileadense

G. *Resinosa.*

Guaiacum
Ladanum
Styrax calamita
Benzöe

H. *Aromatica*

Cinnamomum
Nux Moschata
Macis
Caryophyllus arom.
Pimento
Canella alba
Cascarilla
Piper nigrum
—— longum
—— indicum
Zingiber
Cardamomum minus
Zedoaria
Serpentaria virginiana
Ginseng
Calamus aromaticus

I. *Acria.*

Arum
Pyrethrum
Staphisagria

SEDANTIA.

VI. NARCOTICA.

a. *Rhœades.*

Papaver album
———— erraticum

b. *Umbellatæ.*

Cicuta
Cicuta aquatica

c. *Solanaceæ.*

Belladonna
Hyosciamus
Nicotiana
Solanum
Stramonium

d. *Variæ.*

Laurus
Camphora
Crocus
Vinum

VII. REFRIGERANTIA.

Plantarum Fructus
Herbæ et Radices acidi

VIII. ANTISPASMODICA.

Herbæ fœtidæ.

Artemisia
Atriplex fœtida
Cuminum
Pulegium
Ruta
Sabina

Gummi fœtidæ.

Assafœtida
Galbanum
Opoponax

———

Valeriana sylvestris

IX. DILUENTIA.

X. ATTENUANTIA.

Alkalina
Saccharum
Glycyrrhiza
Fructus siccatæ

XI. INSPISSANTIA.

Acida
Demulcentia farinosa et mucilaginosa.

XII. DEMULCENTIA.

Mucilaginosa
Gummi arabicum
———— tragacantha
Farinosa
Oleosa blanda

XIII. ANTACIDA.

XIV. ANTALKALINA.

XV. ANTISEPTICA.

Plantarum partes acidæ.
Olera acescentia.

Saccharum
Plantæ siliquosæ
——— alliaceæ
Astringentia
Amara
Aromatica
Olea essentialia
Camphora
Gummi-resinæ
Crocus
Contrayerva
Valeriana sylv.
Opium
Papaver album
Vinum

XVI. Errhina.

Asarum
Helleborus albus
Iris palustris
Pyrethrum

XVII. Sialogoga.

Angelica
Caryophylli arom.
Imperatoria
Nicotiana
Piper
Pyrethrum

XVIII. Expectorantia.

Hedra terrestris
Marrubium
Pulegium
Enula campana
Iris florentina
Nicotiana
Scilla
Tussilago
Benzöe
Styrax
Balsamum canad.
——— tolutanum

XIX. Emetica.

Asarum
Ipecacuanha
Nicotiana
Scilla
Sinapi
Raphanus rust.
Amara

XX. Cathartica.

1 *Mitiora*
Ascescentia
Fructus acido-dulces
Cassia fistularis
Tamarindus

Dulcia.

Saccharum
Manna
Radices dulces
Olera blanda

———

Rosa damascena
Viola
Polypodium
Olea blanda
Sinapi
Amara
Balsamica

2 *Acriora*
Rhabarbarum
Seneka
Genista
Sambucus
Ricinus
Senna
Helleborus niger
Jalapium
Scammonium
Spina cervina
Nicotiana
Helleborus albus
Colocynthis
Elaterium

XXI. Diuretica.

Petroselinum
Daucus
Fœniculum
Pimpinella
Eryngium
Rubia tinctorum

Varia.

Bardana
Dulcamara
Arum
Asarum
Digitalis
Enula camp.
Genista
Nicotiana
Ruta
Sabina
Seneka
Scilla
Amara
Balsamica
Siliquosæ
Alliaceæ

XXII. Daphoretica.

Crocus
Dulcamara
Opium
Camphora
Contrayerva
Serpentaria
Salvia
Scordium
Guaiacum
Sassafras
Seneka
Acida vegetab.
Olea essentialia
Vinum
Diluentia

XXIII. Menagoga.

Aloe
Gummi fœtida
Plantæ fœtidæ
Crocus

This Arrangement, though evidently defective, yet considering the authority on which it stands, we have thought proper to publish it without any material alteration.

GENERAL LATIN INDEX,

In which the OFFICINAL NAMES are distinguished by Roman Letters, the SYSTEMATIC by Italics.

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